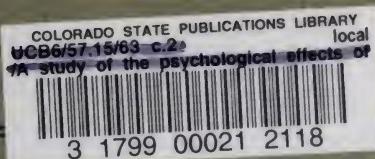


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STATE OF COLORADO
BUREAU OF MINES

State Capitol, Denver

JOHN T. JOYCE, Commissioner of Mines

ANNUAL REPORT FOR
THE YEAR
1923



Denver, Colorado
Eames Bros., Printers
1924



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TABLE OF CONTENTS

	Page
Letter of transmittal.....	3
Personnel of the Bureau of Mines.....	4
Districts of inspection.....	4
Introduction	5
Metal mining in 1923.....	7
Historical note	13
Publications of the Bureau of Mines.....	14
Production	17
Accidents	18
List of operating mines	30
List of operating oil shale properties.....	45
List of operating quarries and clay pits.....	46
List of operating mills and smelters.....	47
List of operating placer mines and dredges.....	48
Index	49

LETTER OF TRANSMITTAL

To His Excellency,

THE HONORABLE WILLIAM E. SWEET,

Governor of Colorado.

Sir: In compliance with Section 3392 of the Compiled Laws of Colorado, 1921, I have the honor to transmit herewith the Annual Report of the State Bureau of Mines for the year 1923.

I wish to take this opportunity to express my high appreciation of the hearty manner in which you have co-operated with this Department in its efforts for the upbuilding and advancement of the mining industry.

Respectfully submitted,

JOHN T. JOYCE,

Commissioner of Mines.

State Capitol,
Denver, Colorado,
May 26, 1924.

PERSONNEL OF THE BUREAU OF MINES OF THE STATE OF COLORADO

JOHN T. JOYCE, Commissioner of Mines.....	Denver
T. R. HENAHEN, Inspector, District No. 1.....	Denver
M. J. McCARTHY, Inspector, District No. 2.....	Canon City
R. J. MURRAY, Inspector, District No. 3.....	Salida
ROBERT INNES, Inspector, District No. 4.....	Montrose
MISS ETHEL M. FLANDERS, Chief Clerk.....	Denver
MRS. A. M. NICKERSON, Stenographer.....	Denver

DISTRICTS OF INSPECTION

DISTRICT No. 1.—Moffat, Routt, Jackson, Grand, Larimer, Boulder, Gilpin, Clear Creek, Jefferson, Denver, Weld, Adams, Arapahoe, Morgan, Logan, Sedgwick, Phillips, Washington and Yuma Counties.

DISTRICT No. 2.—Douglas¹, Elbert, Teller, El Paso, Fremont, Custer, Huerfano, Las Animas, Pueblo, Lincoln, Kit Carson, Cheyenne, Kiowa, Crowley, Otero, Bent, Prowers and Baca Counties.

DISTRICT No. 3.—Rio Blanco, Garfield, Mesa², Delta, Eagle, Summit, Pitkin, Lake, Park and Chaffee Counties.

DISTRICT No. 4.—Montrose, San Miguel, Dolores, Montezuma, Ouray, San Juan, La Plata, Gunnison³, Hinsdale, Saguache³, Mineral³, Rio Grande, Alamosa, Archuleta, Conejos and Costilla Counties.

¹The northern part of Douglas County has been temporarily transferred to District No. 1.

²The southwestern part of Mesa County has been temporarily transferred to District No. 4.

³That part of Saguache County lying east of the Continental Divide, the northern part of Gunnison County and Mineral County have been temporarily transferred to District No. 3.

INTRODUCTION

During the year 1923 the activities of the State Bureau of Mines were confined largely to the usual routine as no funds for work of a special character were provided by the last legislature. However, considerable work was performed by the Inspectors and other employees of the Bureau in the way of gathering statistics as to the mineral resources of the state by counties and districts for general use and information.

The information thus obtained was used quite advantageously in inducing several active smelting concerns to investigate mining conditions in the state, particularly in the northern counties, with a view to entering the field and erecting one or more smelting plants in sections remote from the plants of the American Smelting and Refining Company. While at the date hereof no positive assurance can be advanced, still it appears quite certain that at least one large smelting corporation will erect such a plant during the year at Denver, or some other central point convenient to serve the mines of Gilpin, Clear Creek, Boulder and Park counties.

All of the operating metal mines, quarries, mills and smelters were visited and carefully inspected one or more times by the four inspectors, with the object of correcting or eliminating as far as possible unsafe conditions and practices employed in their operation and of gathering statistics as to the mineral resources of the state. The mine, mill and smelter operators have cheerfully cooperated in this work by granting unobstructed access to the workings on their property and readily complying with the recommendations of the inspectors.

The Commissioner, Inspectors and other employees of the Bureau are anxious to aid in every legitimate way the upbuilding of the mining industry in Colorado and the entire Western fields, and to that end are willing to lend their services at any and all times and invite requests for information.

Investigation of all concerns engaged in the promiseuous sale of mining stocks, units or bonds for the purpose of raising funds was instituted during the year and will be vigorously pushed under "The Securities Act" of the last General Assembly. Where

it is found that the properties they are operating or the enterprises in which they are engaged are meritorious and the funds raised for development and promotion are being honestly used to the best advantage possible, they will be encouraged and protected. But, on the other hand, where it appears that such enterprises do not possess merit and fail to measure up to the representations made in their prospectus, advertisements or literature sent through the mail to prospective purchasers or investors, or where the funds thus raised are not being honestly employed for the purposes represented, the facts obtained from such investigation will be reported to the proper authorities for appropriate action under the provision of said act. In short, the Bureau will encourage, aid and protect all honest and legitimate enterprises, but proposes to put an end to the exploitation of the public by "faking" concerns through the sale of cheap stocks.

The Commissioner desires to express his appreciation of the loyal support and efficient services rendered by the entire personnel of the Bureau during the year and for the co-operation of the Colorado School of Mines, the Colorado Geological Survey, the Colorado Metal Mining Association, the United States Bureau of Mines and the United States Geological Survey.

METAL MINING IN 1923

The metal mining industry, like others, suffered a rapid and serious decline following the close of the great war. Colorado, in common with other states of the Western mining fields, not only felt the effects of the general depression, but also labored under additional adverse local or state conditions, the combined effects of which have caused suspension of operations in at least 65 per cent of our mines which could operate profitably under a partial restoration of pre-war conditions. However, the industry in this state is slowly recovering, as evidenced by a gradual increase in our production during the past two years. The production of the State of Colorado for the year 1921 amounted to \$14,005,500 being the lowest in the state's history since 1878, the first year of the heavy production from the Leadville carbonate fields. The production in 1923 amounted in round numbers to \$18,020,000, an increase of \$2,767,500 over the previous year; an increase of nearly 20 per cent.

While this increase is very encouraging, it fails to bring entire satisfaction to a large majority of mine owners and operators of Colorado, and by no means represents in a comparative way our vast metallic mineral resources or the possible production of the developed mines, the larger number of which were inoperative during the year, as above stated, or the undiscovered and undeveloped prospects of the state.

The suspension of operations of the Denver and Pueblo plants of the American Smelting and Refining Company has compelled the mines and mills of Clear Creek, Gilpin, Boulder and Park counties to ship their ores to the Leadville plant for treatment. This necessarily entails a heavy transportation cost which, in itself, equals and, in many cases, exceeds the margin of profit in the low grade mines of the above mentioned counties and has caused many of them to cease operation. Reliable reports from this district show that many of these mines contain enormous bodies of ore reserves from which an ample supply could be furnished to a smelter that might be erected at Denver, Golden or any other convenient point.

During the past year tungsten mining has been resumed. These mines have been lying idle since 1919.

An increase in the cost of mine supplies of approximately 70 per cent above pre-war levels, coupled with high taxation and scarcity of labor, created an economic burden under which the mining industry has labored since the close of the war. While its deterrent effects were universal, they were more keenly felt in the gold mining districts. Thus Cripple Creek, being essentially a gold mining camp, suffered more from that condition than any other part of the state. This has caused the suspension of many of the lower grade mines in this wonderful district, as evidenced by a serious decline in its annual production since 1916, when it produced \$12,-

119,550, as against \$4,077,559 in 1922. Even a partial approach to normal conditions would soon restore Cripple Creek with its well-known large mineral resources to its former position among the leading gold-producing camps of the west.

The principal towns of the Cripple Creek mining district are Victor, Cripple Creek and Goldfield, with a combined population of 4,500, who depend entirely on mining for a living. The principal mines, with one exception, are located in the eastern end of the district. The production of this district to the Golden Cycle mill, at Colorado Springs, is about 650 tons per day. About 1,000 men are employed at present at an average wage of \$5 per day. The largest operating properties are the Portland, Cresson, Tonopah-Ajax, Vindicator and Granite.

The recent rich strike on the 27th level of the Portland Mine, revealing a vein 8 to 10 feet wide of high-grade gold ore, some of which runs from 400 to 500 ounces in gold to the ton, has aroused much enthusiasm throughout the entire district and, coupled with leasing and bonding of the Stratton Estate properties to eastern capitalists, improved conditions of the Cresson Mine and the proposed resumption of the Modoc and other well-known pre-war producers, assure a bright future for Cripple Creek. A heavy increase in ore production and general ore values is confidently predicted for 1924. This belief is based largely upon proof furnished by recent discoveries in the lower levels of the Portland and Cresson, that the ore values increase with depth and has resulted in stimulating activities throughout the district. Many mine operators are already actively exploring the lower zones of their properties and others are preparing for vigorous operations in that particular.

Mining conditions in Fremont county are very promising. The two zinc oxide plants, both cement plants, seventeen limestone, shale and granite quarries and four clay mines are operating steadily.

Most of the mining in Custer county is of a prospective nature, except that done by the Colorado Lead Products Company, which produces about 200 tons per day. In the opinion of many of the leading mining men of the state, this county presents one of the most promising prospecting sections in the Western fields. Outside of the mine mentioned above and a few former producers, this field has never received the attention it invites and deserves from the "prospector." The recent discovery of rich silver ore in the Mountain Boy Mine has aroused considerable interest, and prospectors are preparing for a vigorous campaign during the year.

Increased activity was noticeable during the year in the counties of Lake, Saguache, Eagle and Summit.

At Leadville the principal supply treated at the local plant of the American Smelting and Refining Company comes from the Yak Tunnel and the Ibex, the former furnishing 2,500 tons and the latter 600 tons per month, mostly produced by leasers. Two most important projects which will mean much for the future of

Leadville are under way. The Canterbury Tunnel, being driven by local and Denver capital, aims to develop the ground in its immediate vicinity and to drain the mines of Fryer Hill and Evans Gulch for a distance of 240 feet below the level of the Yak Tunnel, thus giving new life to the rich mines of the sections mentioned. The other enterprise is the unwatering of the territory which lies between the Carbonate and Iron faults through the installation of electric pumps in the Pyrenees and Greenback shafts.

Iowa Gulch is attracting more attention than usual, owing to the recent discovery made in the Little Alice claim through the Ready Cash Tunnel. Its greatest significance lies in the fact that it dispels beyond all doubt the mooted question as to whether ore exists in any appreciable quantity south of Iowa Gulch. It has proven the continuity of the same body of ore that was discovered in the Hellena about 2,500 feet to the north and has stimulated prospecting in its immediate vicinity. It is now quite evident that the entire area south to Weston Pass and extending on to Granite in Chaffee county will receive much well-deserved attention by prospectors during the year.

The principal mines operating in Saguache county during the year were the Rawley, which produced 300 tons of milling ore daily, and the Orient Mine, producing 350 tons of iron ore per month while preparing to increase its monthly production to 6,000 tons. The Rawley Mine, with its well-known large body of lead-silver ore, has temporarily suspended operation, but will likely resume by early summer and once again be placed on the list among the heavy shippers of the state.

The Cocomongo is treating a small tonnage through its recently completed mill.

The Empire Zinc Company in Eagle county is producing about 8,000 tons per month of sulphide iron for silver values and zinc sulphide for zinc contents.

The Wellington Mine in Summit county is running full capacity, producing lead and zinc concentrates. The Detroit is a new shipper and from 12 to 15 carloads of high-grade silver-lead ore are being taken out each month. The Missouri has opened up a good streak of lead carbonate and has shipped from 10 to 15 cars the last two months. The Royal Tiger Mill, having a capacity of 400 tons, is almost completed and development work is being carried forward in the mine with an increased force of men. The Warriors Mark and the Seven-Thirty are doing considerable development work and have opened up some ore recently. The Jerry and Toledo at Montezuma have installed a compressor and are pushing their main tunnel ahead. The ores from these properties are galena and ruby silver. The dredges of the Tonopah Placers Company and the Blue River Placer Mining Company have been operating steadily. The Eureka Mine has resumed operations.

The Sedalia Mine, in Chaffee county, has been reopened and the company plans to build a concentration and flotation mill in the near future. The Lilly Mine is sending out two or three car-loads of silver-lead ore a month. W. F. Gordon, inventor of the Gordon Fuming and Metal Process, and his associates are planning to take over the Salida Smelter with a view to installing a plant in the near future.

Several new and important discoveries were reported from Park county during the year, which have stimulated development work in both mines and prospects to such an extent that the year 1924 opens full of promise for a partial restoration at least of this old-time section to its former activity.

In the Hope Mine at Aspen an important strike of good silver ore was recently reported. Though this famous silver-producing district was hit hard by the suspension of the Pittman Act, the courage of its operators has not been subdued, and recent reports indicate a material increase in activity and production for the coming year.

The marble quarries at Marble, in Gunnison county, are very active at the present time. The town of Marble has a population of about 500 people, whereas a short time ago it had less than one hundred.

Like other sections, southwestern Colorado has been somewhat affected by the closing of the Pittman Act and the low price paid for silver. However, more work is being done on and in the mines in the San Juan country than at any time since the general depression in 1907. The new sulphating plant constructed at the Durango Smelter has treated enough ore or concentrates to prove that the process is a success. The San Juan country has much lead-zinc sulphide ore and mine owners are looking forward to the time when the plant will be enlarged to receive their ores. At the present time the Black Bear Mine at Telluride supplies all the ore that the plant can handle.

In Gunnison county the Akron Mines at Whitepine have been operating continuously. A good grade of silver-lead-zinc sulphide is produced and shipped to Coffeyville, Kansas. The contract with the ore buyer limits them to 1,000 tons per month; otherwise the mine could stand a much larger production.

An old prospect shaft on Fairview Hill, owned by the late A. E. Reynolds, has been taken over by the Tennessee-Colorado Development Company, which is preparing to sink the shaft 600 feet from its present depth to open an ore body discovered years ago by diamond drilling.

Exploratory and development work has been under way in Hinsdale county and a number of the mines are in readiness to begin shipping next year.

While La Plata county is not classed among the heavy shippers of the present year, considerable developing and prospecting work was performed on many mines in the county. In the May Day the lost vein, from which some of the richest ore ever produced in the state was shipped several years ago, was picked up. One of the important undertakings which promises well for the future is the development of the Allard and other groups which comprise an immense area of ground containing 80 contiguous claims lying in the La Plata Mountains. The entire area is intensely mineralized and gives evidence of great future possibilities.

The principal shippers in Ouray county during the past year were the Mountain Top and the Atlas. With large reserves and increased capacity, both these companies are planning for a large output in 1924.

The future looks bright for San Juan county. The Sunnyside has been in continuous operation, producing around 16,000 tons of ore per month, making concentrates of about 300 tons for the Durango Smelter. Development work on the Pride of the West has revealed a large vein of high-grade milling ore.

The Gold King, at Gladstone, after three years' inactivity, has resumed operations and will take its place among the shippers of the county.

The new mill and tramway erected at Howardsville to treat the ores of the Little Nation Mine are ready to operate.

In San Miguel county the Smuggler-Union is being operated with a force of 320 men, with a monthly production of 19,000 tons; the Tomboy with a production of 18,000 tons per month and the Black Bear with a monthly production of 9,000 tons.

Mention might well be made of several other properties, operated for the most part by lessees and located principally in the vicinity of the two smelters, which furnish considerable tonnage to each of these plants.

During the year many important new discoveries were made throughout the state which will add materially to the anticipated output of 1924 and go a long way toward proving the inexhaustibility of our mineral resources.

Among the new fields which might be mentioned as possessing many allurements for the return of the prospector are Custer county, La Plata and Needle Mountains in La Plata county, the San Juan gold belt, the immense area in the mountains of Archuleta county north of Pagosa Springs, Park county, the large area in and south of Iowa Gulch in Lake county and the new fields which will become accessible by the construction of the Moffat Tunnel.

Conditions affecting metal mining operations in Colorado are slowly improving, and the gradual increase in our annual production since 1921 shows that the industry in this state is keeping pace therewith—in fact, outstripping it—and dispels at once the erroneous thought that seems to have found lodgment in the minds of the over-skeptical that our vast metallic mineral resources are verging on the edge of exhaustion. On the other hand, the large ore reserves in our developed mines are sufficient to meet every demand, while our unexplored and undeveloped fields are so vast and promising that their greatness and future possibilities are beyond human calculation.

HISTORICAL NOTE

The Bureau of Mines of the State of Colorado was established by an act of the Tenth General Assembly, approved March 30, 1895. This act repealed a previous act creating an "Inspector of Metaliferous Mines," which was passed in 1889. The Bureau of Mines law established the office of Commissioner of Mines, provided for in the State Constitution, and charged him, among other things, with the supervision of metal mine inspection and the enforcement of laws relating to safety and health in metal mines. Subsequently this was broadened to include "any ore mill, sampling works, smelter, metallurgical plant, rock quarry, clay pit, railroad tunnel, rock excavation or mine of whatsoever kind or character, except coal mines." The Commissioner of Mines was also charged, "as he has opportunity and means," to collect mineral specimens and exhibit the same, to collect books relating to mining and geology, to collect and preserve data regarding mining methods, mining costs, milling, metallurgy, geology, mineral deposits of all kinds, and so on. Aside from the purchase of the Elsner collection of minerals, very little "opportunity and means" has been granted to the Commissioners for anything except inspection work. The present activities of the Bureau of Mines are treated elsewhere in this report.

COMMISSIONERS OF MINES

Harry A. Lee.....	May 11, 1895-May 10, 1903
E. L. White.....	May 10, 1903-May 10, 1907
T. J. Dalzell.....	May 10, 1907-May 10, 1911
T. R. Henahen.....	May 10, 1911-May 10, 1915
Fred Carroll	May 10, 1915-June 1, 1919
Horace F. Lunt.....	June 1, 1919-June 1, 1923
John T. Joyce.....	June 1, 1923-

PUBLICATIONS OF THE BUREAU OF MINES

BULLETINS

- Bulletin No. 1, Recommendations for Safety Appliances in Mining, Harry A. Lee, Commissioner of Mines, 1896.
- Bulletin No. 2, Precious Metal Production for the year 1898, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 3, Mining Laws Relative to Bureau of Mines, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 4, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1901.
- Bulletin No. 5, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1902.
- Bulletin No. 6, Regulations Relative to the Construction, Equipment and Operation of Metalliferous Mines, Mills and Metallurgical Plants, Recommendations and Mineral Production for 1905, E. L. White, Commissioner of Mines, 1906.
- Bulletin No. 7, Federal and State Laws Relating to Mining, Fred Carroll, Commissioner of Mines, 1916.
- Supplement to Bulletin 7, Mining Laws Enacted by the Twenty-first General Assembly, Fred Carroll, Commissioner of Mines, 1917.
- Supplement No. 2 to Bulletin No. 7, Amendments to the Mining Laws Enacted by the Twenty-second General Assembly, Horace F. Lunt, Commissioner of Mines, 1919.
- Supplement No. 3 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-third General Assembly, Horace F. Lunt, Commissioner of Mines, 1921.
- Supplement No. 4 to Bulletin 7, Amendments to Laws Relating to Mining Enacted by the Twenty-fourth General Assembly, Horace F. Lunt, Commissioner of Mines, 1923.
- Bulletin No. 8, The Oil Shales of Northwestern Colorado, Horace F. Lunt, Commissioner of Mines, 1919.
- Bulletin No. 9, Mine Safety Standards, Horace F. Lunt, Commissioner of Mines, 1920.

REPORTS

- Report of Bureau of Mines, Colorado, from its establishment in May, 1895, to November 30, 1896, Harry A. Lee, Commissioner of Mines, 1896.

- Report for the Year 1897, Harry A. Lee, Commissioner of Mines, 1898.
- Report for the Year 1898, Harry A. Lee, Commissioner of Mines, 1899.
- Biennial Report for the Years 1899-1900, Harry A. Lee, Commissioner of Mines, 1900.
- Biennial Report for the Years 1901-1902, Harry A. Lee, Commissioner of Mines, 1903.
- Biennial Report for the Years 1903-1904, E. L. White, Commissioner of Mines, 1905.
- Biennial Report for the Years 1905-1906, E. L. White, Commissioner of Mines, 1907.
- Biennial Report for the Years 1907-1908, T. J. Dalzell, Commissioner of Mines, 1909.
- Biennial Report for the Years 1909-1910, T. J. Dalzell, Commissioner of Mines, 1911.
- Biennial Report for the Years 1911-1912, T. R. Henahen, Commissioner of Mines, 1913.
- Biennial Report for the Years 1913-1914, T. R. Henahen, Commissioner of Mines, 1914.
- Biennial Report for the Years 1915-1916, Fred Carroll, Commissioner of Mines, 1916.
- Biennial Report for the Years 1917-1918, Fred Carroll, Commissioner of Mines, 1919.
- Annual Report for the Year 1919, Horace F. Lunt, Commissioner of Mines, 1920.
- Annual Report for the Year 1920, Horace F. Lunt, Commissioner of Mines, 1921.
- Annual Report for the Year 1921, Horace F. Lunt, Commissioner of Mines, 1922.
- Annual Report for the Year 1922, Horace F. Lunt, Commissioner of Mines, 1923.

At the time this report goes to press, there are available for distribution copies of the Biennial Report for 1915-1916, Annual Reports for 1919, 1921 and 1922, Bulletins 7, 8 and 9. The price of Bulletin 7, with supplements, is 50 cents, all other available publications are free. The supply of publications not mentioned above is exhausted, but copies may be found in many of the public, state and college libraries throughout the country.

TABLE I

PRODUCTION OF THE PRINCIPAL METALS IN COLORADO IN 1922 AND 1923

Compiled from figures by C. W. Henderson, Mineral Geographer, U. S. Geological Survey. Figures for 1923 are preliminary and subject to correction.

	GOLD*				SILVER				LEAD				COPPER				ZINC				Increase or Decrease		County		
	1922		1923		1922		1923		1922		1923		1922		1923		1922		1923						
	Fine Ounces	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	\$	\$											
Adams	21.09	\$ 498	1,791.66	\$37,037	1,285.50	\$26,574	121.073	\$39,528	32,413	68,470	3,766	30,232	2,115	\$ 502	502	Adams	
Boulder	1,791.66	\$37,037	1,285.50	\$26,574	121.073	\$39,528	32,413	68,470	3,766	601,728	36,395	558,789	39,115	20,525	2,771	7,255	1,065	178,000	10,146	133,000	9,044	161,876	\$61,103	100,773	Boulder
Chaffee	964.40	\$19,936	841.44	\$17,394	26,187	\$20,941	17,172	601,728	36,395	558,789	39,115	20,525	2,771	7,255	1,065	178,000	10,146	133,000	9,044	95,435	\$83,791	11,644	Chaffee		
Clear Creek	1,751.13	\$36,199	1,493.49	\$30,873	196,207	\$183,741	150,668	1,042,491	57,337	1,054,647	73,825	7,874	1,063	78,337	11,514	800,000	45,600	539,300	36,672	336,406	\$303,552	82,854	Clear Creek		
Custer	8.08	\$167	122.82	\$2,539	14,520	\$28,593	23,446	660,618	36,334	1,660,734	115,255	32,141	4,339	11,437	1,581	55,360	143,921	88,561	Custer		
Dolores	94.48	\$1,953	139.80	\$2,890	30,267	\$39,410	32,316	87,200	4,796	152,413	11,369	24,089	3,262	61,247	9,003	137,800	9,370	40,268	64,948	24,680	Dolores		
Douglas	.58	\$12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	12	Douglas
Eagle	3,488.37	\$72,111	2,060.69	\$42,598	583,737	\$327,593	268,626	322,818	17,755	507,612	35,533	1,330,296	179,590	632,846	93,028	11,000,000	627,000	23,600,000	1,604,800	1,480,193	\$2,044,585	564,392	Eagle		
Fremont	1.02	\$21	1.31	\$27	174	174	186	152	4,273	1,997	110	348	47	.....	.....	19,800	1,346	477	1,665	1,188	Fremont		
Gilpin	2,501.96	\$51,720	1,422.55	\$29,407	43,910	\$44,951	36,860	246,945	13,582	231,553	16,209	24,860	3,356	19,815	2,913	.....	.....	112,568	85,389	27,179	284	Gilpin	
Grand	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Grand
Gunnison	444.08	\$9,180	1,160.69	\$23,994	3,803	\$2,947	20,456	13,382	736	1,000,896	112,063	526	71	1,788	263	.....	2,889,000	196,452	13,790	353,228	339,438	Gunnison		
Hinsdale	62.79	\$1,298	35.40	\$732	50,074	\$30,046	24,638	114,200	6,281	19,999	1,398	14,269	1,926	10,074	1,481	.....	59,579	28,249	31,330	31,330	Hinsdale			
Lake	19,981.68	\$413,058	13,071.27	\$270,207	952,048	\$655,767	537,729	5,521,818	303,700	5,625,800	393,806	871,370	117,535	511,773	75,231	9,003,000	513,171	9,414,500	640,186	2,299,612	1,917,159	382,453	Lake		
La Plata	1,560.63	\$32,261	770.90	\$15,936	10,656	\$10,656	17,140	14,055	.....	1,801	816	120	.....	.....	.....	41,400	2,815	42,917	30,237	12,680	La Plata	
Mineral	80.01	\$1,654	116.80	\$2,414	106,903	\$228,858	187,672	153,455	8,440	235,967	16,588	3,422	462	1,091	160	.....	.....	.....	114	114	92,190	Mineral
Moffat	5.51	\$114	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	114	Moffat
Montrose	15.58	\$322	8.80	\$182	17,968	\$23,322	19,121	19,121	.....	51,119	8,251	57,162	8,403	.....	.....	.....	26,541	27,709	.....	1,168	1,168	Montrose
Ouray	6,093.32	\$127,960	878.80	\$18,166	1,226,670	\$550,985	451,808	1,484,526	81,649	1,204,138	84,290	78,500	44,509	6,543	.....	.....	1,442,129	560,807	1,442,129	881,322	881,322	Ouray	
Park	6,875.07	\$142,120	7,193.63	\$148,706	15,528	\$18,579	15,235	155,982	8,579	19,400	1,358	4,215	569	5,585	821	.....	166,796	166,120	166,796	676	676	Park		
Pitkin	.....	.....	1.00	\$21	525,169	\$429,581	352,256	3,555,309	195,542	2,976,615	208,363	.....	.....	464,800	31,605	720,711	592,246	.....	128,465	128,465	Pitkin	
Rio Grande	.....	.....	82.25	\$1,700	.....	.....	161	132	.....	932	65	.....	215	32	.....	.....	.....	.....	1,929	1,929	1,929	Rio Grande
Routt	.....	.....	1.85	\$38	82	82	82	.....	.....	.....	.....	.....	.....	.....	.....	82	38	38	44	44	Routt	
Saguache	234.57	\$4,849	207.04	\$4,280	63,512	\$63,542	127,693	111,782	6,148	2,919,204	204,344	41,622	5,619	459,477	67,543	.....	80,158	403,860	403,860	323,702	323,702	Saguache		
San Juan	1,246.09	\$25,759	11,679.48	\$241,436	77,864	\$459,179	376,528	1,651,982	90,859	10,378,155	726,471	110,348	14,817	974,298	143,222	1,300,000	74,100	9,279,800	631,027	233,479	2,118,684	1,835,205	San Juan		
San Miguel	52,110.80	\$1,077,846	66,009.78	\$1,366,404	1,646,459	\$1,645,459	1,982,007	1,625,246	7,069,891	388,319	9,360,637	656,244	673,857	90,972	1,034,941	152,137	.....	3,202,626	3,799,031	596,405	596,405	San Miguel		
Summit	13,630.22	\$281,762	11,327.39	\$234,158	119,604	\$119,604	142,528	116,872	559,330	30,763	3,892,829	272,498	94,413	12,746	18,262	2,685	977,000	55,689	7,040,900	478,782	500,564	1,104,495	601,431	Summit	
Teller	196,318.03	\$4,037,582	195,865.81	\$4,048,906	24,462	24,462	22,637	18,562	.....	.....	.....	.....	.....	.....	.....	.....	4,062,044	4,067,468	4,067,468	5,424	5,424	Teller
Total	308,314.15	\$6,373,419	316,868.55	\$6,529,583	5,856,911	\$5,855,911	5,426,738	\$4,449,925	23,477,200	\$1,291,246	42,445,620	\$2,971,193	3,373,454	\$455,416	3,930,928	\$577,846	23,258,000	\$1,325,705	53,560,300	\$3,642,100	\$15,301,698	\$18,170,647	\$+2,868,949		
Decrease, 1923	.....	.....	.....	.....	.....	.....	429,173	1,405,986	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unit prices	\$20.67	\$1.00	\$0.068			

*Includes placer production.

PRODUCTION

Gold, Silver, Copper, Lead and Zinc.

The production of gold, silver, copper, lead and zinc for 1922 and 1923 is shown in Table I. The figures for 1922 are final; those for 1923 are preliminary and subject to correction.

The gold dredges in Summit and Park counties, the production of which is included with that of the lode mines in Table I, recovered bullion containing about 17,265 ounces of gold and 4,026 ounces of silver.

Miscellaneous.

Plastic clay, fire clay, gypsum, lime, sandstone, fluorspar and other non-metallic minerals have been produced to meet local demands. The marble quarries have been very active during the past year.

Tungsten mining was resumed by the Wolf Tongue Mining Company and the Vasco Mining Company near Nederland during 1923 and the manganese properties in the Leadville district were reopened. About 115 tons of carnotite ore was produced by the operators in Montrose county.

Acknowledgment.

Thanks are due to George Otis Smith, Director, and C. W. Henderson, Mineral Geographer of the United States Geological Survey, for the production statistics regarding the common metals.

FATAL ACCIDENTS, 1923

Underground.

January 11, Gus W. Berg, age 63, employed as a mucker in a mine in Ouray county, was instantly killed by a fall of rock from the back of the drift in which he was working. Our investigation showed that the rock was evidently loosened by the previous blasting, but he failed to notice this condition on his return to work.

February 14, while at work in a mine in Saguache county, Joe Suto, age 28, of Leadville, was killed by falling 80 feet down a raise. The accident was caused by his failure to sufficiently nail the cleats to the raise timbers on which he had placed a drilling staging. The weight of himself, machine and the pressure it was working against caused the cleats to give way. No inquest was held, as our investigation revealed that the accident was the result of his own negligence.

March 14, John Lasser, age 45, a timberman employed in a mine at Telluride, while engaged in placing a stull in a mine drift preparatory to installing a new set of timbers, was struck by a cave of loose ground and had his leg broken. He was taken to a hospital, where he died three days later from complications which developed shortly after the accident.

May 3, in a mine in Saguache county, Sirio Mascarenas, age 24, while spragging for machine men was crushed beneath a heavy rock fall, from the effects of which he died the following day at a Red Cross hospital. The accident was caused by failure to bar down loose rock.

June 25, in a mine in Eagle county, Hugh McGuire, age 40, while picking out a base for timbers in a stope was instantly killed by a fall of rock. He had been warned by one of the timbermen to get out from under the ground, as it was very bad, but he did not heed the warning in time.

July 9, two men, Joe Prepich, age 23, and Adam Ahil, age 38, employed as muckers in a mine in San Miguel county, were instantly killed by a blast. There were no witnesses to the accident, but from our investigation it appears that they returned before the last shot went off.

August 16, in a mine near Leadville, Joseph Sheridan Roper, age 28, was instantly killed by the fall of a small slab of soft ground from the back of the drift in which he was working. The coroner returned a verdict of unavoidable accident.

August 16, Policarpio Martinez, age 25, while mucking behind a contractor for whom he was working in a mine near Telluride, received injuries by a fall of rock, from which he died on August 23. Our investigation shows that the accident was the result of carelessness on the part of the contractors in failing to keep the ground properly timbered.

August 19, in a mine near Telluride, Louis Zupanick, age 30, a timberman, while barring down some loose ground was caught under a heavy slab of rock, which fell from the roof of the level, and he was instantly killed. It appears that no one could be held responsible for the accident other than the deceased.

August 29, in a mine at Ilse, J. F. Morgan, age 52, a contractor, while standing on a ladder in a manway using a drill to loosen the muck in the chute on the other side of the partition, was struck on the head by a falling rock and precipitated 40 feet down the manway. He died in an hour and thirty minutes after the accident.

September 24, in a mine near Telluride, Silas Cisco, a miner, age 24, while pushing a loaded car over an ore pass which had been uncovered to permit the dumping of ore into the pass, missed his footing and fell 200 feet, killing him instantly.

November 24, Robert M. Sharen, age 67, a mucker employed at a mine in Ouray county, was caught under a fall of rock while mucking in a stope, receiving injuries from which he died two hours later. Our inspection revealed that the accident was the result of his own carelessness and that of his partner in failing to observe instructions to make their working place safe.

December 27, Glen Coy, age 19, employed as a trammer in a mine in Teller county, while engaged in clearing the track of loose rock, was caught under a heavy fall of rock from the back of the drift and instantly killed.

Shaft.

September 6, in a mine in Clear Creek county, Joe Reynolds age 46, a miner, was instantly killed by falling 360 feet down a steep incline shaft. It had been customary, by an understanding between the engineer and the men employed underground, to make two trips with the skip from the level where the miners were working to the lower level at quitting time, so that the men could leave the mine through the lower level. The first trip was made with a number of the men, and in giving the bell signal to hoist the skip back for the other men, through some defect in the electric signal transmission, the engineer received only the one bell signal to bring the skip to the top, though one of the men who was at the bottom claims he gave the usual signal of 5-1 bells. The men thus left in the mine started down the incline shaft on the ladders, with Mr. Reynolds leading; when he reached a point about 35 feet down the shaft a portion of the ladder gave way and he fell to a point near the lower level. He was dead when the men reached him. The coroner's jury returned a verdict of accidental death.

November 20, Ninian Edwards, age 70, a mechanical engineer employed in a mine in Teller county, was killed by falling down a shaft. Edwards was about to step on the skip at the collar of the shaft to go down into the mine when the top man, not noticing him, gave the release signal and the skip immediately descended, carrying Edwards down a distance of 550 feet before the skip was stopped. Edwards incurred injuries from which he died three hours later. This accident was evidently caused by a faulty arrangement of the signal system, which our inspector ordered rectified.

Mill.

March 24, Edgar Thorne, age 42, elevator operator at a mill in San Miguel county, was instantly killed by falling down the elevator shaft. From our investigation it is evident that the accident was the result of his own carelessness, as he failed to make use of the safeguards provided for the loading of the elevator by attempting to carry a heavy box over the greased skidway on which a movable platform for such work operates.

Smelter.

July 16, Anton Menein, age 32, night foreman at a mill at Globeville, was overcome by hydrogen sulphide gas from the gas washing system and died from the effects (at Mercy Hospital) on July 28. Our investigation showed that this accident might have been prevented had the room been properly ventilated by openings in the roof. The only means of ventilation at the time of the accident was a window directly over the wash tanks. Recommendations have been issued to have a proper system of ventilation installed.

September 7, William Ahern, age 44, employed as a carpenter at a smelting plant near Leadville, fell down a flue which was discharging hot gases, receiving injuries which developed into pneumonia, from which he died September 19.

Quarry.

June 8, in Huerfano county, Guadalupe Soria, age 27, a trammer, while engaged in pushing a loaded bucket of clay was instantly killed by a fall of rock from the roof. Investigation showed that the usual precautions had been employed by the management and that this was the first serious accident in the quarry during the past 18 years.

Dredge.

July 23, Gus Hallen, age 55, while trying to locate a ground in the 1,300-volt cable on a dredge in Summit county, was electrocuted and instantly killed. Under orders from this office, a coroner's inquest was held and the jury found that Mr. Hallen came to his death through negligence on the part of those in charge of the work.

TABLE II

DAYS OF EMPLOYMENT IN AND ABOUT MINES, MILLS AND SMELTERS, AND NUMBER OF MEN KILLED AND INJURED PER 10,000 DAYS OF EMPLOYMENT DURING THE YEARS 1922 AND 1923

	Employment Days of 1922	Killed		1922		1923		Slight Injury (Time Lost Over 14 Days)		1922		1923		
		No. of Accidents	Rate Per 10,000 Days	No. of Accidents	Rate Per 10,000 Days	No. of Accidents	Rate Per 10,000 Days	No. of Accidents	Rate Per 10,000 Days	No. of Accidents	Rate Per 10,000 Days	No. of Accidents	Rate Per 10,000 Days	
Underground	774,065	778,835	15	.1937	16	.2054	171	2,209	220	2,824	195	2,519	284	3,646
Surface	263,354	263,808	1	.0379	....	....	56	2,126	41	1,554	38	1,442	55	2,084
Mills	397,981	391,390	1	.0251	1	.0255	17	4,271	39	.9964	32	.8040	31	.7920
Smelters	346,700	432,859	1	.0288	2	.0462	24	.6922	50	1,155	54	1,557	108	2,495
Quarries	150,301	160,650	2	.0665	1	.0622	21	1,397	37	2,303	60	3,991	45	2,801
Placer Mines (Dredges)	20,246	20,782	3	.1481	1	.4811	3	1,481	8	3,849	15	7,418	14	6,736
Dil Shale	12,777	10,000	...	....	....	....	4	3,13	....	....	2	1,565	....	....

TABLE III

CLASSIFICATION ACCORDING TO CAUSE OF ALL ACCIDENTS IN THE METAL MINING AND QUARRYING INDUSTRY IN THE STATE OF COLORADO DURING THE YEARS 1922 AND 1923

CLASSIFICATION ACCORDING TO CAUSE OF ALL ACCIDENTS IN THE METAL MINING AND QUARRYING INDUSTRY, IN THE STATE OF COLORADO DURING THE YEARS 1922 AND 1923.—Continued.

17.	Railway cars and locomotives.....	1
Cranes .....	.....	1
Other machinery .....	.....	5
19. Falls of persons .....	.....	5
20. Suffocation in ore bins.....	.....	6
21. Flying or falling objects (rocks, timbers, etc.).....	.....	7
22. Gas (burns or asphyxiation).....	.....	19
Scalding (steam or water).....	.....	19
Electricity .....	.....	1
23. Hand tools, axes, bars, etc.....	.....	2
Nails, splinters, etc.....	.....	2
24. Burns from mate, slag, or molten metal (pouring or spilling)	.....	2
25. Other causes .....	.....	2
26. Burns from mate, slag, or molten metal (pouring or spilling)	.....	2
27. Nails, splinters, etc.....	.....	2
28. Burns from mate, slag, or molten metal (pouring or spilling)	.....	2
29. Hot metal explosions.....	.....	2
30. Other causes .....	.....	2
Total	1	95
AUXILIARY WORKS		
31. Haulage systems .....	.....	2
Railway cars and locomotives.....	.....	3
Falls of persons .....	.....	3
32. Falling objects (rocks, timbers, etc.).....	.....	2
Nails, splinters, etc.....	.....	2
33. Hand tools, axes, bars, etc.....	.....	1
34. Electrical .....	.....	4
Machinery .....	.....	1
Failure of ladder, scaffold, or other support.....	.....	1
35. Handling hot materials.....	.....	2
36. Other causes .....	.....	3
Total	4	13
IN AND ABOUT QUARRY		
1. Falls or slides of rock or overburden.....	1	1
2. Handling rock at face.....	.....	4
3. Explosives—	.....	2
(a) Transportation .....	.....	1
(b) Charging .....	.....	3
Drilling into old holes .....	.....	1
(d) Striking in loose rock .....	.....	3
(e) Thawing .....	.....	2
(f) Caps, detonators, etc.....	.....	1
Unguarded shots .....	.....	1
Returned too soon .....	.....	1
Premature shot .....	.....	1
(i) Delayed blast .....	.....	1
Miscellaneous .....	.....	2

CLASSIFICATION ACCORDING TO CAUSE OF ALL ACCIDENTS IN THE METAL MINING AND QUARRYING INDUSTRY IN THE STATE OF COLORADO DURING THE YEARS 1922 AND 1923.—Concluded.

TABLE IV

CLASSIFICATION ACCORDING TO CAUSE AND OCCUPATION OF THE FATAL ACCIDENTS THAT OCCURRED IN THE METAL MINING AND QUARRYING INDUSTRY OF COLORADO IN THE YEARS 1922 AND 1923

	MINES						SHAFTS					
	Superintendents, Foremen and Engineers 1922	Machine Men and Helpers 1923	Miners 1922	Miners 1923	Trackmen, Pipemen, Pumpmen and Com- pressormen 1922	Loaders, Shovelers Muckers and Trammers 1922	Loaders, Shovelers Muckers and Trammers 1923	Cage Tenders and Station Cagers 1922	Carpenters, Timber- men and Helpers 1923	Electricians, Motor- men and Helpers 1922	Carpenters, Timber- men and Helpers 1923	
UNDERGROUND												
1. Falls of rock or ore from roof or wall	1	1	2	1	4	4	4	1	3	...	...	...
2. Handling rock or ore
3. Timber or hand tools
4. Explosives	1	2	1	...	...	...	...	...	...	...	...	...
5. Haulage
6. Persons falling down chute, winze, raise or slope	1	2	1	...	1	...	...	...	...	...
7. Run of ore from chute or pocket	1	...	...	...	...	...	...	...	...	...
8. Drilling (by machine or hand drills)
9. Electricity
10. Machinery other than 5 or 8
11. Mine fires
12. Suffocation from natural gases	1	...	...	...	...	...	...	...	...	...
13. Inrush of water
14. Nails and splinters
15. Other causes	3	4	6	2	4	5	...	1	3	...
Total
SHAFTS												
16. Falling down shaft	1	...	...	...	...	1	...	...	...	...	...	...
17. Objects falling down shaft
18. Breaking of cables
19. Overwinding
20. Cage, skip or bucket
21. Other causes
Total	1	1	...	...	...

CLASSIFICATION ACCORDING TO CAUSE AND OCCUPATION OF THE FATAL ACCIDENTS THAT OCCURRED IN THE METAL MINING AND QUARRYING INDUSTRY OF COLORADO IN THE YEARS 1922 AND 1923—Continued

SURFACE ACCIDENTS

SMELTERS

	Feeders and Cranes	Superintend- ents and Foremen	Laborers	Motormen and Switchmen	Furnace Men and Charge Wheeler	1922	1923	1922	1923	1922	1923
1. Haulage system					
2. Railway cars and locomotives					
3. Cranes					
4. Other machinery					
5. Falls of persons					
6. Suffocation in ore bins					
7. Flying or falling objects.						1	1	...	...	...	...
8. Gas (burns or asphyxiation)					
9. Scalding (steam or water)					
10. Electricity					
11. Hand tools, axes, bars, etc.					
12. Nails, splinters, etc.					
13. Burns from matte, slag or molten metal (pouring or spilling)					
14. Hot metal explosions.					
15. Other causes					
Total						1	1	1	1	1	1

QUARRIES, CLAY PITS AND OIL SHALE MINES

	Feeders and Cranes	Superintend- ents and Foremen	Teamsters	Drillmen	Laborers	1922	1923	1922	1923	1922	1923
1. Haulage					
2. Machinery						1	1	1	1	1	1
3. Other causes					
Total						1	1	1	1	1	1

PLACERS AND DREDGES

	Feeders and Cranes	Miners	Dredgemen	Laborers	1922	1923	1922	1923	1922	1923
1. Machinery					1	1	1	1	1	1
2. Electricity				
3. Other causes					1	1	1	1	1	1
Total					1	1	1	1	1	1

OPERATING MINES IN BOULDER COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Alice (a)	Jamestown	Charles Mohr & Co.	Jamesstown	Fluorspar
Arapahoe (a)	Ward	Geo. L. Ross and H. F. Theilin	Ward	Gold, Sil., Cor. (c)
Big Horn	Salina	Geo. H. Pomeroy	Salina	Gold, Sil., Lead (c)
Black Diamond (a)	Nederland	C. L. Stewart	Nederland	Tungsten (c)
Blue Jay	Jamestown	H. S. Vickery	Jamestown	Fluorspar
Blue Ribbon (a)	Crisman	Larson and King	Crisman	Gold, Silver
Bonanza (a)	Nederland	Wolf Tongue Mining Co.	Boulder	Tungsten
Boulder County Tunnel and Caribou Castle	Cardinal	Caribou Metals Co.	Boulder	Gold, Silver, Lead
Cold Spring and Cold Spring	Jamestown	Matt Herchen	Springdale	Gold, Silver (c)
Castle Tunnel (a)	Jamestown	Matt Herchen	Springdale	Gold, Silver (c)
Consolidation (a)	Nederland	John Evans	Boulder	Tungsten
Cross (a)	Jamestown	Wolf Tongue Mining Co.	Boulder	Fluorspar
Durias (a)	Nederland	G. W. Gordon	Jamestown	Tungsten
East Side and Lamar	Jamestown	W. J. and J. P. Sullivan	Eldora	Gold, Silver (c)
Elk Head (a)	Jamestown	Matt Herchen and Assoc.	Jamestown	Gold, Silver (c)
Equator (a)	Tower and Walker	Tower and Walker	Jamestown	Gold, Silver
Fairfax (a)	Salina	H. W. Nicholls	Salina	Gold, Sil., Lead (c)
Fortune	Salina	Walstrom & Co.	Boulder	Gold, Silver (c)
Garfield (a)	Magnolia	Geo. P. and Julia E. Sale	Magnolia	Gold, Silver
Goldsmith Maid (a)	Ward	Mrs. Sarah Weiss	Ward	Gold, Silver
Gray Bird (a)	Summerville	Newell-McIntyre	405 Barnett Bldg., Denver	Lead
Great Britain (a)	Ward	Ernest Graham	Ward	Gold, Silver, Lead
Horsfall	Gold Hill	Associated Leasing Co.	Gold Hill	Gold, Sil., Cop. (c)
Huron	Gold Hill	W. L. McCaslin	Longmont	Gold, Sil., Silver (c)
Independent (a)	Eldora	Huron Gold Ores Co.	404 Cooper Bldg., Denver	Gold, Silver (c)
Iron Age	Boulder	A. F. Empfield	Boulder	Tungsten
Jumbo	Magnolia	M. C. Morrison	Boulder	Fluorspar
KeKeOnga	Jamestown	Saint and Markt	Jamestown	Tungsten (c)
Kicker (a)	Magnolia	J. L. Blanch	U. S. Nat. Blk. Bldg., Denver	Tungsten
Last Chance (a)	Nederland	Wolf Tongue Mining Co.	Boulder	Boulder
Little Johnnie	Salina	Little Johnnie M. and M. Co.	Salina	Tungsten
Logan	Crisman	Logan Metals Co.	Boulder	Gold, Silver
Mary Olive (a)	H. E. Baker	3519 Newton St., Denver	Boulder	Gold, Silver (c)
Morning Star	Eldora	Morning Star Co.	854 Sherman Blvd., Milwaukee, Wis.	Gold
Myrtle	Gold Hill	Providence M. and M. Co.	2684 S. Broadway, Denver	Gold, Silver
Nations Treasure (a)	Jamestown	E. R. Terry	Jamestown	Fluorspar
Oklahoma (a)	Boulder	Frank Rhoades	Boulder	Gold, Silver, Lead, Tungsten
Platteville (a)	Eldora	Samuel H. Deirks	1321 Logan St., Denver	Gold, Silver (c)

Potosi.....	Caribou.....	The Potosi-Caribou Mining Co.	188 Market St., Newark, N. J.	Gold, Silver, Lead, Copper
Ready Cash (a)	Boulder.....	John W. Kirkbride & Co	2341 18th St., Boulder.	Gold, Silver (c)
Red Sign (a)	Boulder.....	Frederick Weeks	Boulder.....	Tungsten
Richmond (a)	Salina.....	H. H. McDaniel	Ward.....	Gold, Silver (c)
Ruby (a)	Ward.....	M. E. Vale & Co	Eldora.....	Gold, Silver
Shirley	Tungsten.....	J. B. Rowley	Gold Hill.....	Gold (c)
Snowbound (a)	Gold Hill.....	Snow Bound Mining Co.	Clayton, Ill.....	Gold, Silver (c)
Two Sisters (a)	Gold Hill.....	J. L. Tabbox	Gold Hill.....	Gold, Silver (c)
Vasco (m)	Tungsten.....	S. N. Davidson	Boulder.....	Tungsten
White Crow and Osceola	Sunshine.....	Vasco Mining Co.	Citizens Nat. Bank, Boulder.....	Gold, Silver (c)
Wittie	Crisman.....	Nil Desperandum Mines Co.	2923 Inca St., Denver.....	Gold, Silver (c)
Wood Mountain (m)	Wood Mountain Mines Co.	Jacob Witter	Wallstreet.....	Gold, Silver
Yellow Pine.....	Yellow Pine Mines and Red Co.	Wood Mountain Mines Co.	Gold, Silver	Lead, Copper
Crisman.....	Crisman.....	Yellow Pine Mines and Red Co.	Boulder.....	Gold, Silver, Lead, Copper

OPERATING MINES IN CHAFFEE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Gladstone.....	Buena Vista.....	Gladstone Mines Co.	Buena Vista.....	Sil., Lead, Cop.
Lilly.....	Garfield.....	Garfield Mines and Reduction Co.	Garfield.....	Gold, Silver, Lead
Mary Murphy.....	Romley.....	Mary Murphy Gold Mining Co.	307 Boston Bldg., Denver.....	Gold, Silver, Lead, Copper, Zinc
Sedalia.....	Sedalia. Copper Co.....	Sedalia. Copper Co.....	Box 594, Salida.....	Gold, Silver, Cop., Zinc

OPERATING MINES IN CLEAR CREEK COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
A. C. A. Lode (a)	Empire.....	P. McDonough and C. Ketterer	2035 W. Clyde Place, Denver.....	Gold, Sil. Cop. (c)
Albro (a)	Dumont.....	Albro Leasing Co.	Dumont.....	Gold, Silver, Lead, Copper
Alexander (a)	Idaho Springs.....	Geo. Miner and Wilfred Forgett	Idaho Springs.....	Gold, Silver
Argo.....	Idaho Springs.....	Stude-Marie Mining Co.	Idaho Springs.....	Gold, Silver, Lead
Bear Creek and Little				
Boss Tunnel.....	Idaho Springs.....	Boss & Co.	Idaho Springs.....	Gold, Silver, Cop.
Back Bone (a)	Silver Plume.....	Meyer Rosenburg	Silver Plume.....	Gold, Silver, Lead
Becky Sharp.....	Idaho Springs.....	Becky Sharp Lease	Idaho Springs.....	Gold, Sil. Cop. (c)
Belvie Hudson.....	Empire.....	L. W. Teagarden	Georgetown.....	Gold, Silver, Lead
Big Chance.....	Lawson.....	Porter & Co.	Lawson.....	Gold, Silver, Lead
Big Five Tunnel.....	Idaho Springs.....	Big Five Mining Co.	405 Interstate Trust Bldg., Denver.....	Gold, Silver, Lead

(a) Operated for part of the year only. (c) No production in 1923. (m) Mill operated in connection with mine.

OPERATING MINES IN CLEAR CREEK COUNTY, 1923.—Continued.

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Boston and Clear Creek.....	Boston and Clear Creek Mfg. Co.....	Georgetown.....	Georgetown.....	Gold, Silver, Lead, Copper (c)
Brazil.....	Idaho Springs.....	B. J. Foley and Wm. Morgan.....	Idaho Springs.....	Gold, Sil., Lead (c)
Calvin and Remington.....	Idaho Springs.....	Social Six Mining Co.....	2241 W. 34th Ave., Denver.....	Gold, Silver (c)
Capital.....	Georgetown.....	Capital Mining and Milling Co.....	50 Congress St., Boston, Mass.....	Gold, Silver, Lead, Zinc
Challenge, etc. (a).....	Empire.....	Kenneth T. Sharpe.....	Empire.....	Gold, Silver (c)
Champion.....	Alice.....	George A. Reynolds.....	Alice.....	Gold, Silver (c)
Charter Oak.....	Idaho Springs.....	Charter Oak-Chancellor M. and M. Co.....	Pioneer, Ohio.....	Gold, Silver (c)
Clara (a).....	Alice.....	Henry J. Walden.....	Alice.....	Gold, Sil., Cop. (c)
Clear Creek and Gilpin Tunnel (a).....	Dumont.....	Corporation of American Mines.....	50 Broad St., New York, N. Y.....	Gold, Silver, Lead, Copper, Zinc (c)
Cleveland-Silverwing (a).....	Lawson.....	Smith Lawson Co.....	Lawson.....	Gold, Sil., Lead (c)
Colorado Extension (a).....	Lawson.....	William Hutton.....	Georgetown.....	Gold, Silver, Lead, Copper, Zinc (c)
Columbine Tunnel (a).....	Empire.....	Kenneth T. Sharpe.....	Empire.....	Gold, Sil., Lead (c)
Commodore (a).....	Lawson.....	H. E. Minier.....	Lawson.....	Gold, Sil., Lead (c)
Croesus (a).....	Silver Plume.....	David Collins and Assoc.....	Silver Plume.....	Gold, Sil., Lead (c)
Crown Point, Virginia and Bantalla.....	Idaho Springs.....	Caney Oil-Mines Co.....	Box 61, Idaho Springs.....	Gold, Silver
Davenport Tunnel (a).....	Georgetown.....	Venus Mining Co.....	Georgetown.....	Gold, Silver, Lead, Zinc
Denver Tunnel.....	Georgetown.....	The Metals Tunnel Co.....	255 W. 37th Ave., Denver.....	Gold, Sil., Lead (c)
Dives Seven Thirty.....	Silver Plume.....	East Butte Copper Mining Co.....	317 Railway Exchange Bldg., Denver.....	Silver, Lead
Dominion (a).....	Idaho Springs.....	Rice Brothers.....	Idaho Springs.....	Gold, Silver, Cop.
Empire Cons. (a).....	Empire.....	Empire Cons. Mines, Inc.....	Empire.....	Gold, Silver, Cop.
Esmralda (a).....	Idaho Springs.....	Oscar Halst.....	Idaho Springs.....	Gold, Silver, Cop.
Food Cliff.....	Empire.....	Geo. D. Everenden Co.....	2004 Live Oak St., Dallas, Texas.....	Gold, Silver
Frank J. Hayes Group.....	Idaho Springs.....	Frank J. Hayes Mining Co.....	220 U. S. Nat. Bank Bldg., Denver.....	Gold, Sil., Cop. (c)
Freeland and Turner.....	Idaho Springs.....	United Freeland Dev. and T. Co.....	Idaho Springs.....	Gold, Silver, Lead, Copper, Zinc
Freeman (a).....	Idaho Springs.....	C. A. Swanson.....	Idaho Springs.....	Gold, Silver, Lead
Gem.....	Idaho Springs.....	Gem Mining Co.....	Idaho Springs.....	Gold, Silver (c)
Gold Belt.....	Silver Plume.....	Elmwood Min. and Exploration Co.....	Silver Plume and Elmwood, Neb.....	Gold, Silver, Lead, Zinc
Gold Dollar Tunnel.....	Alice.....	Nick Klaes.....	Alice.....	Gold, Silver, Lead, Copper (c)
Gold Glen (a).....	Idaho Springs.....	Gold Glen M., M and T. Co.....	Idaho Springs.....	Gold, Silver, Lead

Gold Valley (a)	Lawson	Columbian Mtn. M. and L. Co.	2018 California St., Denver	Gold, Sil., Lead (c)
Golden Eagle, etc (a)	Idaho Springs	G. L. Brown	Idaho Springs	Gold, Silver (c)
Golden Edge (a)	Idaho Springs	Golden Edge Mines Co.	Idaho Springs	Gold, Silver, Lead, Copper
Golden Empire	Empire	Golden Empire Mining Co.	205 Commonwealth Bldg., Denver	Gold, Silver, Lead, Copper, Zinc (c)
Hamill Tunnel	Silver Plume	Hamill Mining and Tunnel Co.	Silver Plume	Gold, Sil., Lead (c)
Hidden Treasure	Idaho Springs	Treasure Vault Mining Co.	Denham Bldg., Denver	Gold, Silver, Lead
Hudson Mill	Idaho Springs	H. E. Machol	Idaho Springs	Gold, Sil., Lead (c)
Jo Reynolds	Lawson	L. B. Smulz	Laclede Bldg., St. Louis, Mo.	Gold, Silver, Lead
Lee (a)	Dumont	Lee M. and M. Co.	Dumont	Gold, Silver, Lead
Lincoln	Idaho Springs	Lincoln M. and M. Co.	Dayton, Ohio	Copper
Lombard (a)	Idaho Springs	Tonopah Colorado Leasing Co.	570 Bullitt Bldg., Philadelphia, Pa.	Gold, Silver, Lead, Zinc
Lucky Find	Dumont	Wm. Burns & Co.	Dumont	Gold, Silver, Lead, Copper
Mattie (a), (m)	Idaho Springs	Mattie Cons. Mines, Inc.	First Nat. Bk. Bldg., Denver	Gold, Silver, Lead
Mattie Jack (a)	Dumont	B. L. Groth & Co.	Dumont	Silver, Lead
Mendota (a)	Silver Plume	Wasatch Colorado Mining Co.	Silver Plume	Gold, Silver, Lead, Zinc
Meteor	Alice	George A. Reynolds	Alice	Gold, Silver
Millington	Dumont	Millington G. M. and M. Co.	Dumont	Gold, Silver
Molly Bawn, etc	Empire	Molly Bawn Mines	Empire	Gold, Sil., Cop. (c)
National (a)	Silver Plume	National Mining Co.	Silver Plume	Gold, Silver, Lead, Zinc
Neglected (a)	Freeland	Charles Olson	Idaho Springs, Denver	Gold, Silver, Lead
Nimrod (a)	Cassells	Freund and Hunter	910 26th St., Denver	Copper (c)
O. S. Storrs	Empire	J. A. Helm and Assoc.	Empire	Gold, Sil., Cop. (c)
Old Stone Wall (a)	Alice	Thomas Minner	Alice	Gold, Silver, Lead
Oriental Tunnel (a)	Georgetown	H. L. Sealander	Georgetown	Copper
Orinoco (a)	Idaho Springs	Shurey Gold Mining Co.	Idaho Springs	Gold, Sil., Lead (c)
Ottawa (a)	Alice	John F. Kaminsky	Alice	Gold, Silver, Lead, Copper, Zinc (c)
Pay Streak (a)	Georgetown	William Hunter	Georgetown	Gold, Silver, Lead, Copper
Platts' Big Chance	Lawson	Smith Lawson Co.	Lawson	Gold, Silver, Lead, Copper, Zinc
Rainbow Tunnel	Georgetown	Rainbow Mining Co.	Georgetown	Gold, Sil., Lead (c)
St. George (m)	Georgetown	St. George Mine, Inc.	30 Broad St., New York, N. Y.	Gold, Silver, Lead, Zinc
Santiago	Georgetown	Argentine-Santiago M. and M. Co.	Georgetown	Gold, Silver, Lead, Copper
Senator	Dumont	Himes Leasing Co.	53 Hyde Park Blvd., Chicago, Ill.	Gold, Silver, Lead

(a) Operated for part of the year only. (c) No production in 1923.

(m) Mill operated in connection with mine.

OPERATING MINES IN CLEAR CREEK COUNTY, 1923.—(Continued.)

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Sidney Tunnel (a)	Georgetown	M. Sidney in charge	Georgetown	Gold, Silver, Lead
Silent Friend (a)	Idaho Springs	Friend Mining Co.	Idaho Springs	Copper, Zinc (c)
Silver King	Dumont	Henry Bolhoff	1807 Emerson St., Denver	Gold, Silver, Cop. Gold, Silver, Lead
Silver Leaf and Mammoth	Silver Plume	Frank Watrous	Silver Plume	Copper (c)
Silver Mountain	Georgetown	Nelson Leasing and Dev. Co.	Empire	Gold, Silver, Lead
Silver Queen (a)	Cassells	J. F. Kimberley and J. L. Henritz	Cassells	Gold, Silver, Cop.
Silver Queen	Idaho Springs	Surety Gold Mining Co.	Idaho Springs	Gold, Sil., Lead (c)
Star Tunnel (a)	Idaho Springs	J. H. Short	2448 Irving St., Denver	Gold, Sil., Lead (c)
Sunburst-Sceptre	Georgetown	Scopire Mines and Mills Co.	35 Congress St., Boston	Gold, Silver, Lead
Sun-Dog (a)	Silver Plume	Buckley Bros.	Silver Plume	Silver, Lead
Swan (a)	Idaho Springs	Swan M. and M. Co.	440 S. Pearl St., Denver	Gold, Sil., Lead (c)
Tom Moore (a)	Lawson	Tom Moore M. and M. Co.	310 Colorado Bldg., Denver	Gold, Silver (c)
Waldorf	Georgetown	Palisade Copper Co.	Cheney Bldg., Kumford, Me.	Gold, Silver, Lead
Yukon Girl (a)	Idaho Springs	D. A. Barry	Idaho Springs	Copper, Zinc (c)
Zero Tunnel	Silver Plume	East Butte Copper Mining Co.	317 Railway Exchange Bldg., Denver	Gold, Silver, Lead, Zinc

OPERATING MINES IN CUSTER COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Bassick Cyanide Mill	Querida	Alaska Gold M. and M. Co.	Silver Cliff	Gold, Silver, Lead
Ben Eaton	Rosita	Silverado Ore Co.	411 Temple Court, Denver	(c)
Cloverdale	Hillside	Cloverdale Mines Co.	Hillside	(c)
Comstock Tunnel	Querida	Bassick Extension Mining Corp.	4633 a Delmar Blvd., St. Louis, Mo.	(c)
Lambertine	Querida	The G. F. Mining Associates.	943 Claremont Ave., Pueblo	(c)
Last Quarter (a)	Westcliffe	Henry J. Arnold	4633 a Delmar Blvd., St. Louis, Mo.	(c)
Ophir Creek (a)	Ophir Creek	Ophir Creek Gold M. and M. Co.	411 Temple Court, Denver	(c)
Skeek City	Westcliffe	Bassick Extension Mining Corp.	Florence	(c)
Ten to One (a)	Westcliffe	Vidler and Ryan	4633 a Delmar Blvd., St. Louis, Mo.	(c)
Terrible	Westcliffe	Tidwell Products Co.	*Westcliffe	Gold, Silver, Lead
			St. Louis	Lead

OPERATING MINES IN DOLORES COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Emma	Coke Ovens	Joseph Frico and Assoc.	Telluride	Gold, Silver
Falcon, etc.	Falcon	Falcon Syndicate	Rico	Gold, Silver, Lead, Copper, Zinc
Smuggler	Dunton	Mt. Pleasant Mining Co.	Denver	Gold, Silver (c)

OPERATING MINES IN EAGLE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Eagle.....	Gilman.....	The Empire Zinc Co.....	160 Front St., New York, N. Y.....	Gold, Silver, Zinc, Manganese Gold, Silver
Polar Star.....	Eagle.....	Polar Star Mining Co.....	Eagle.....	Gold, Silver

OPERATING TUNNELS IN GARFIELD COUNTY, 1923

Name of Tunnel	Location	Operator	P. O. Address	Character of Product
Glenwood Tunnel.....	Glenwood Springs.....	White and Johnson.....	Chamber of Commerce Bldg., Denver.....	

OPERATING MINES IN GILPIN COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
American Eagle.....	Central City.....	Bradford Mines Co.....	Central City.....	Silver, Lead (c)
Annie Lode (a).....	Blackhawk.....	Otto Ruttkamp	Blackhawk.....	Gold, Sil., Lead (c)
Atkinson (a).....	Central City.....	Fred Benyman	Arvada.....	Gold, Silver, Cop.
Atlantic (a).....	Hughesville.....	Denver Mining Pool Co.....	1424 16th St., Denver.....	Silver, Lead
Black Jack.....	Blackhawk.....	Silver Mountain Mining Co.....	1840 California St., Denver.....	Gold, Silver, Lead, Zinc
Bonny Bryan.....	Central City.....	Claud McKay & Co.....	Blackhawk.....	Gold, Silver, Lead
Cape Cod (a).....	Blackhawk.....	O. C. Redick Mining Co.....	Omaha, Neb.....	Gold, Silver, Lead
Clare Champion.....	Blackhawk.....	Charles Wooldridge	Golden.....	Gold, Silver, Lead
Clare Marie (a).....	Central City.....	Geo. S. Hewes.....	Blackhawk.....	Gold, Silver, Lead
Cleveland (a).....	Blackhawk.....	Fliss Brothers	Central City.....	Zinc
Colorado Tunnel (a).....	Rollinsville.....	Comstock M. and M. Co.....	Blackhawk.....	Gold, Silver, Lead
Columbia Tunnel (a).....	Central City.....	Moser & Co.....	Rollinsville, Box 511, Central City	Gold, Silver, Cop.
Cornucopia (a).....	Central City.....	Cornucopia M. and M. Co.....	Blackhawk.....	Gold, Silver, Cop.
Cyclone (a).....	Blackhawk.....	Midwest M. and M. Co.....	Blackhawk.....	Gold, Silver, Lead
East Williams (a).....	Blackhawk.....	H. H. Hoffman & Co.....	Central City.....	Silver, Lead
Etna (a) (m).....	Central City.....	Light and Sullivan	Central City.....	Gold, Silver, Lead
Evergreen.....	Apex.....	Evergreen Mines Co.....	408 Empire Bldg., Denver.....	Conner Zinc Gold, Sil., Cop. (c)

(a) Operated for part of the year only.

(c) No production in 1923.

(m) Mill operated in connection with mine.

OPERATING MINES IN GILPIN, 1923.—Continued.

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Fairburn Lode (a)	Blackhawk	Otto Ruttkamp	Blackhawk	Gold, Sil., Lead (c)
Fairfield	Russell Gulch	Fairfield Mine, J. C. F. Webb	Russell Gulch	Gold, Silver, Cop.
Gold Ledge (a)	Central City	Gold Ledge Mining Co.	Central City	Gold, Silver
Greenside (a)	Central City	Lampshire & Co.	Central City	Gold, Silver, Lead, Zinc
Jennie Blanche (a)	Blackhawk	Richards and Saunders	Blackhawk	Gold, Silver, Lead, Zinc
Jupiter-St. Clair	Russell Gulch	Jupiter-St. Clair Mining Co.	806 E. and C. Bldg., Denver	Gold, Silver, Cop.
Keystone-Bates (a)	Blackhawk	Otto Ruttkamp	Blackhawk	Gold, Sil., Lead (c)
Lillian (a)	Russell Gulch	Kingston Mining Co.	209 McMann Bldg., Denver	Gold, Silver, Cop.
Maryland Tunnel (a)	Rollinsville	Maryland Mines and Reduction Co.	611 18th St., Denver	Gold, Sil., Cop. (c)
Mocking Bird (a)	Rollinsville	Barnard and Kuehn L. and H. Synd.	Rollinsville	Gold, Silver, Cop.
Monarch (a)	Rollinsville	S-O-N Mining Co.	Centerville, Iowa	Gold, Silver (c)
Pennsylvania (a)	Central City	H. H. Wherry	Blackhawk	Gold, Silver, Lead
Penobscot (a)	Rollinsville	Comstock M. and M. Co.	Rollinsville	Gold, Silver, Lead, Copper
Perigo (a)	Rollinsville	Perigo M. and M. Co.	Rollinsville	Gold, Silver, Cop.
Bara Avis	Central City	Stephen Hoskins	214 Gilpin St., Denver	Silver, Lead
Russell	Russell Gulch	The Thelma Leasing Co.	Russell Gulch	Gold, Silver, Cop.
Saco De Oro (a)	Apex	Saco De Oro M. and M. Co.	511 Mack Bldg., Denver	Gold, silver (c)
Senator	Rollinsville	L. Liberman	Central City	Gold, Silver, Lead
Seven Thirty (a)	Rollinsville	New Life Hilton	Rollinsville	Gold, Silver, Cop.
Smuggler (a) (m)	Rollinsville	New Life M. and M. Corp.	7 Water St., Boston, Mass.	Gold, Sil., Cop. (c)
Spotted Horse (a)	Rollinsville	Turney and Williams	Rollinsville	Gold, Sil., Lead (c)
Spur Daisy (a)	Central City	D. H. Yoho	Box 133, Central City	Gold, Silver
Tip Top (a)	Rollinsville	Tip Top Gold Dredging Co.	434 Commonwealth Bldg., Denver	Gold, Silver, Lead
Two Lassies	Central City	Anderson Bros., Inc.	Central City	Copper, Zinc
Wain, etc.	Central City	Alice-Theora Mining Co.	Central City	Gold, Silver, Cop.

OPERATING MINES IN GRAND COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Ready Dream	Parshall	C. B. Wider	Parshall	Gold, Copper (c)
Ready Cash	Empire	Helping Hand M. and M.	336 Gas and Elec. Bldg., Denver	Silver, Lead (c)
W. I. M. Tunnel	Empire	Development Co.	Empire	Coop. Metal Mines Co.

OPERATING MINES IN GUNNISON COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Akron	Whitepine	Akron Mines	Whitepine	Silver, Lead, Zinc
Carter	Ohio	The Carter Mines Company	Ohio	Gold, Silver
Gold Cap (a)	Pitkin	Gold Cup M. and R. Co.	Pitkin	Gold
Good Hope (a)	Jota	Good Hope Mining and Reduction Co.	Jota	Gold, Silver, Cop.
Morning Star	Whitepine	Morning Star Mines Dev. Co.	Gunnison	Gold, Silver
Roosevelt	Pitkin	Roosevelt Mines and Elec. Co.	Pitkin	Gold
Tennessee Shaft, etc.	Pitkin	Tennessee-Colorado Development Co.	Jacksonville, Tenn.	Gold (c)
Victor	Whitepine	Victor Lease	Whitepine	Silver, Lead, Zinc
White Iron	Sapinero	White Iron Ores and Products Co.	Sapinero	Gold, Sil., Cop., Iron

OPERATING MINES IN HINSDALE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Belle of the East	Lake City	Fucky Day M. and M. Co.	Lake City	Gold, Silver
Belle of the West	Lake City	Belle of the West Mining Co.	Lake City	Gold, Silver, Lead, Copper, Zinc
Black Wonder	Lake City	Colo. Cons. M. and P. Co.	Lake City	Gold, Silver
Fanny Fern	Lake City	Fanny Fern Mining Co.	Lake City	Gold, Silver, Lead, Zinc
General Sherman	Lake City	A. Andrik and John Ilgaudes	Lake City	Gold, Silver (c)
George III	Lake City	George III Mines Company	1006 Patterson Bldg., Denver	Gold, Silver (c)
Golconda	Lake City	Golconda Mines Cons. Inc.	Lake City	Gold, Silver
Golden Fleece	Lake City	Golden Fleece T. M. and L. Co.	Lake City	Gold, Silver (c)
Hidden Treasure	Lake City	McCarthy Hidden Treasure Mg. Corp.	726 World Herald Bldg., Omaha, Nebraska	Silver, Lead (c)
Lead	Lake City	John Ilgaudes	Lake City	Gold, Silver
Lellie	Lake City	Silvermine Mines Company	Lake City	Silver, Lead (c)
Lucky Day Mill	Lake City	Lucky Day Mines and Milling Co.	Lake City	Gold, Silver
Silver Key	Lake City	J. S. Atkins and Assoc.	Lake City	Gold, Silver
Wyoming	Lake City	H. E. Fulghum and Assoc.	Ouray	Silver, Lead, Zinc

OPERATING MINES IN JACKSON COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Colorado Fluorspar	Cowdry	Colorado Fluorspar Corporation	Cowdry	Fluorspar
(a) Operated for part of the year only.		(c) No production in 1923.	(m) Mill operated in connection with mine.	

OPERATING MINES IN LAKE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
A. V. Shaft	Leadville	George Curtis and Assoc.	119 East 8th St., Leadville	Manganese
A. V. and Minnie (a)	Leadville	Bartell Lease	406 East 7th St., Leadville	Silver, Iron
Adelaide Tunnel (a)	Adelaide Park	Adelaide Mining Company	Leadville	Silver, Lead
Blaine	Leadville	Forrest City Lease	100 East 10th St., Leadville	Zinc
Canterbury Tunnel	Leadville	Leadville Mine Leasing Co.	Box 603, Leadville	Silver, Iron (c)
Chrysotile No. 4	Leadville	John Holden	212 East 4th St., Leadville	Silver, Lead
Dinero	Leadville	Inez Mining Company	Leadville	Gold, Silver
Down Town	Leadville	Down Town Mines Co.	Leadville	Gold, Sil., Lead, Copper, Zinc, Manganese
Fanny Rawlings	Leadville	Kanawha Gold Mining Co.	Delaware Block, Leadville	Gold, Sil., Lead, Copper, Zinc
Fortuna (a)	Leadville	Starr Leasing Company	Leadville	Silver, Lead
Henrietta	Leadville	Henrietta Mines Company	Leadville	Manganese
Hibschle Shaft	Leadville	Seventh St. Mining Co.	Leadville	Silver, Lead
Ibex	Leadville	The Ibex Mining Co.	Leadville	Gold, Sil., Lead, Copper
Izard	Leadville	Izard Lease	Box 606, Leadville	Gold, Silver, Lead
Lilian	Leadville	Tim Riley & Co.	Leadville	Silver, Iron
Little Alice	Leadville	Two Mile High Mining Co.	First Nat'l Bank Bldg., Denver	Gold, Sil., Lead, Zinc
Louisville	Leadville	Louisville Mine	219 Railway Exchange Bldg., Denver	Gold, Silver, Lead
Matchless No. 7 (a)	Leadville	Mrs. H. A. W. Tabor	Vendome Hotel, Leadville	Silver, Iron
Mecca	Leadville	Mecca Mining Co.	Wortman	Silver
Mikado	Leadville	The Mikado Lease	Box 606, Leadville	Gold, Silver
P. O. S. Shaft (a)	Leadville	P. O. S. Leasing Company	Leadville	Silver, Lead, Manganese
Ponsardin Shaft (a)	Leadville	Seneca Mining Company	603 Harrison Ave., Leadville	Silver, Iron (c)
Prince of Wales	Leadville	Prince of Wales Leasing Co.	520 West Chestnut St., Leadville	Gold, Silver, Zinc
Robert E. Lee	Leadville	Robert E. Lee Lease	Leadville	Silver (c)
St. Louis	Leadville	John Cortellini	329 West 8th St., Leadville	Gold, Zinc
Shamus O'Brien	Leadville	New Denver City Mining Co.	Box 548, Leadville	Silver
Snowflake Tunnel	Leadville	Wilkesbarre Leasing Co.	Box 342, Leadville	Gold, Sil., Copper, Zinc
South Ibex	Leadville	South Ibex Mines Co.	Leadville	Silver
Star	Leadville	Star Cons. Mines Co.	304 East 8th St., Leadville	Lead, Iron
Tucson	Leadville	Tucson Lease	Leadville	Zinc
Yak	Leadville	Yak Mines—A. S. and R. Co.	Leadville	Silver, Lead, Cop., Zinc

OPERATING MINES IN LA PLATA COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Idaho-Valley View	Hesperus	Valley View Cons. G. M. Co.	Hesperus	Gold, Silver
Lucky Moon (a)	Durango	Allison L. Kroeger	Durango	Gold, Silver, Zinc
May Day	May Day	Cumberland Mines Company	Hesperus	Gold, Silver

OPERATING MINES IN LARIMER COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Colorado (a)	Log Cabin	T. C. Sullivan	Log Cabin	Gold, Silver
Gold Bug (a)	Log Cabin	Gold Bug M. & M. Co. Ltd	Log Cabin	Gold, Silver
Golden Reward (a)	Manhattan	W. E. Whitham	61 st Cherry St., Ft. Collins	Gold, Sil. Copper
Prodigal (a)	Manhattan	John W. Rigdon	Fort Collins	Gold, Silver
Rockfield	Manhattan	S. A. Prendergast	Log Cabin	Gold, Sil. Copper
Windy Point	Log Cabin	T. C. Sullivan	Log Cabin	Gold, Silver

OPERATING MINES IN MINERAL COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Bachelor	Creede	Bachelor M. & M. Co.	60 th U. S. Nat'l Bank Bldg., Denver	Silver
Bethel	Creede	Bethel Mining & Leasing Co.	3730 South Grand Ave., Los Angeles, Cal.	Silver (c)
Fluorspar	Wagon Whl Gap	S. B. Collins	Wagon Wheel Gap	Fluorspar
Last Chance	Creede	Morgan & Sloan	Creede	Silver
New York	Creede	Morgan & Sloan	Detroit, Michigan	Silver
Resurrection	Creede	Midwest Mining Company	Creede	Silver (c)
Silver Horde (a)	Creede	Silver Horde M. & M. Co.	Creede	Silver (c)

OPERATING MINES IN MONTROSE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Farmer Boy	Nucla	C. H. Mason and P. L. Wood	Nucla	Carnotite
Long Park	Naturita	United States Radium Corp.	30 Church St., New York, N. Y.	Carnotite
Standard (m)	Naturita	Standard Chemical Company	Vanadium Bldg., Pittsburgh, Pa.	Carnotite

(a) Operated for part of the year only. (c) No production in 1923. (m) Mill operated in connection with mine.

ANNUAL REPORT

OPERATING MINES IN OURAY COUNTY, 1923

Name of Mine Atlas.	Location of Mine Barstow	Operator Atlas M. & M. Company	P. O. Address Ironton	Character of Product Zinc
Eva (a)	Ouray	John P. Martin	Ouray	Gold, Silver, Lead, Zinc
Gustin (a)	Ouray	Frank L. Ross	736 Gas and Elec. Bldg., Denver	Gold, Sil., Lead (c)
Mt. Hayden	Ouray	White Mt. Mining Co	Ouray	Gold, Sil., Lead (c) Gold, Silver, Lead, Zinc (c)
Mountain Top	Ouray	Mountain Top Mining Co.	Ouray	Gold, Silver, Lead, Zinc (c)
Revenue	Ouray	Revenue Tunnel Mines Co.	1555 Sherman St., Denver	Gold, Silver, Lead, Zinc
Rueville Group	Ouray	Ernest Hoffman & Sons	Silverton	Gold, Silver, Lead
Scotch and Irish Girl	Ouray	Andrew Meldrum	Silverton	Gold, Silver
Thistledown	Ouray	McCullough-Withrow Leasing Co.	Ouray	Gold, Silver
Wm. Penn	Ouray	Silver Screen M. & M. Co.	33 Union Square, New York, N. Y.	Silver, Copper

OPERATING MINES IN PARK COUNTY, 1923

Name of Mine Aetna (a)	Location of Mine Alma	Operator A. H. Reynolds	P. O. Address Centerburg, Ohio	Character of Product Gold, Silver (c)
Copper Glance (a)	Shawnee	C. F. Appleman	Shawnee	Gold (c)
Criterion	Alma	C. L. Sloan & Co.	Alma	Gold (c)
Excelsior and Paris (a)	Alma	Mt. Gross Ores Co.	1674 Broadway, New York	Gold, Silver
Funston and Lookout (a)	Alma	Dan O'Connell	Alma	Gold, Silver (c)
Lincoln	Alma	Lincoln Cons. Mining Co.	Alma	Gold, Silver, Lead, Zinc
London	Alma	London Gold Mines Co.	Colorado Springs	Gold, Silver, Lead
Missouri	Cassells	J. C. M. Snyder	Cassells	Gold, Silver, Lead, Copper
North Side London	Alma	London Mines Leasing Co.	624 Central Savings Bank Bldg., Denver	(c)
Orphan Boy (a)	Alma	Iroquois Mines Comphany	1006 Patterson Bldg., Denver	Gold, Silver
Sweet Home	Alma	Sweet Home Gold and Silver M. & M Co.	408 Tramway Bldg., Denver	Gold, Silver, Lead, Copper

OPERATING MINES IN PITKIN COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Bonnybel (a)	Aspen	Bonnybel Lease	Aspen	Silver, Lead (c)
Copper Gulch (a)	Ashcroft	Dr. K. C. Sapero	Guardian Trust Bldg., Denver	Copper
Cowerhoven Tunnel and Hunter Creek Mill (m)	Aspen	Silver Mines Co. of America	1103 Peoples Bldg., Pittsburgh, Pa.	Gold, Silver, Lead, Copper, Zinc
Gem	Aspen	Gem Leasing Company	Aspen	Silver, Lead (c)
Hope	Aspen	Hope M., M. & L. Co.	Aspen	Silver, Lead (c)
Hurricane	Aspen	Hurricane Leasing Company	Aspen	Silver, Lead (c)
Jewell	Aspen	Jewell Mining Company	517 Dan Waggoner Bldg., Fort Worth, Texas	Silver, Lead (c)
Midnight	Aspen	Midnight Mining Company	Aspen	Silver, Lead (c)
Newman Tunnel	Aspen	Newman M., M. & L. Co.	Aspen	Silver, Lead (c)
Park Tunnel	Aspen	Park Tunnel M. & M. Co.	Aspen	Silver, Lead (c)
Smuggler (m)	Aspen	Smuggler Leasing Company	Aspen	Silver, Lead, Zinc
Veteran Tunnel	Aspen	Millinee Mining Co. and Spar Co. Mining Co.	Aspen	Silver

OPERATING MINES IN ROUTT COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Blue Jay	Hahns Peak	Claude McFadden	Hahns Peak	Gold, Silver (c)
Florence R.	Hahns Peak	Glen Robbins	Hahns Peak	Gold, Silver (c)
Royal Flush	Columbine	Hahns Peak Gold M. & M. Co.	Room 3, Algoma Bldg., Oshkosh, Wisconsin	Gold, Silver, Zinc, Copper (c)
Tom Thum and New Discovery	Steamboat Spgs.	Tom Thum Syndicate	Steamboat Springs	Gold, Silver (c)

OPERATING MINES IN SAGUACHE COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Cocomongo	Bonanza	Cocomongo Mines Co.	541 F St., Salida	Silver
Orient	Mineral Hot Springs	Colorado Fuel & Iron Co.	820 Boston Bldg., Denver	Iron
Rawley (m)	Bonanza	Colorado Corporation	2014th St., Denver	Silver, Copper
(a) Operated for part of the year only.		(c) No production in 1923.	(m) Mill operated in connection with mine.	

ANNUAL REPORT

OPERATING MINES IN SAN JUAN COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Caledonian	Middleton	Caledonian M. & M. Co.	Eureka	Silver, Lead, Zinc
Dives	Howardville	Dives Leasing Company	Eureka	Gold, Silver
Gold King	Gladstone	Gold King Mines Corporation	Gladstone	Gold, Silver, Lead
Highland Mary (a)	Silverton	Highland Leasing Company	Silverton	Gold, Silver, Lead, Copper
Iowa (a) (m)	Silverton	Iowa Gold M. & M. Co.	Silverton	Gold, Silver, Lead, Copper, Zinc
Kansas City (a)	Silverton	Paul B. Walker	Ironton	Sil, Lead, Cop. (c)
Little Nation (m)	Howardville	Little Nation Mining Company	423 Lee Bldg., Kansas City, Mo.	Gold, Silver, Lead, Copper, Zinc
Pride of the West	Howardville	Wide West Mining Company	Silverton	Gold, Silver, Lead, Copper, Zinc
Sunnyside (m)	Eureka	Sunnyside M. & M. Co.	55 Congress St., Boston, Mass.	Gold, Silver, Lead, Copper, Zinc

OPERATING MINES IN SAN MIGUEL COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Alta (m)	Telluride	Belmont Wagner Mining Co.	500 Bullitt Bldg., Phila., Pa.	Gold, Silver, Lead
Black Bear (m)	Telluride	Colorado-Superior M. Co.	Colorado-Superior M. Co.	Gold, Silver, Lead, Copper
Carbonero	Ophir	Ruuitilla Brown Leasing Co.	Ophir	Gold, Silver, Lead, Copper, Zinc
Providence	Vanadium	Nite-lite Camp	Vanadium	Silver, Lead
San Bernardo	Ophir	Valley View Leasing & Mg. Co.	Ophir	Gold, Silver, Lead, Zinc
Sheridan Crosscut	Telluride	Gold Drift Leasing Company	Telluride	Gold, Silver, Lead
Silver Bell (m)	Ophir	Ophir Loop Mines & Metals Co.	Ophir	Copper, Zinc
Smuggler Union (m)	Telluride	Smuggler-Union Mining Co.	Telluride	Gold, Silver, Lead
Tomboy (m)	Telluride	Tomboy Gold Mines Co., Ltd.	Telluride	Gold, Silver, Lead, Copper, Zinc

OPERATING MINES IN SUMMIT COUNTY, 1923

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
American Eagle (a)	Shawnee	C. F. Appelman	Shawnee	Gold, Silver, Lead, (c)

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
American Eagles, etc.	Cripple Creek	Stratton C. C. M. & D. Co.	Box 178, Colorado Springs.	Gold
Anaconda (a)	Anaconda Creek	Anaconda Leasing Company	202 Boston Bldg., Denver.	Gold (c)
Bad Boy (a)	Cripple Creek	A. J. Wirebaugh	Cripple Creek	Gold (c)
Bertha B. (a)	Cripple Creek	Bertha B. Leasing Company	208 So. 3rd St., Victor	Gold (c)
Blue Bell (a)	Cripple Creek	Blue Bell Leasing Company	Box 75, Victor.	Gold
(a) Operated for part of the year only.				
(c) No production in 1923.				
(m) Mill operated in connection with mine.				
Detroit.....	Breckenridge.....	Detroit Leasing Company.....	Breckenridge.....	Gold, Silver, Lead, Zinc
Four-Most (a) Fox Lake, etc.	Frisco.....	Four-Most M. & M. Co.....	Frisco.....	Gold, Silver (c)
Gibson Hill (a)	Breckenridge.....	Gibson Hill Development Co.	Breckenridge.....	Gold, Silver, Copper (c)
Hunkidory (a)	Montezuma.....	Silver M. & M. Co.	Montezuma.....	Copper
Ida Bell.....	Keystone.....	J. D. Oliver.....	Dillon.....	Gold, Silver, Lead, Copper
Jerry and Philadelphia (m)	Montezuma.....	Washington Gold Quartz Mining Co.	.30 North LaSalle St., Chicago, Ill.	Silver
Marlin (a)	Montezuma.....	Marlin M., M. & Power Co.	860 Omaha Nat'l Bank Bldg., Omaha, Nebraska	Gold, Silver, Lead
Missouri Cristo (a)	Breckenridge.....	Detroit Leasing Company	Breckenridge.....	Gold, Silver, Lead
Pennsylvania.....	Shawnee.....	C. F. Appleman.....	Shawnee.....	(c)
Royal Tiger.....	Montezuma.....	Liberty Mining & Reduction Co.	502 Masonic Temple, Denver.	Gold, Silver, Lead, Copper
Ryan Placer (a)	Tiger.....	Royal Tiger Mines Co.	1006 Patterson Bldg., Denver.	Gold, Silver, Lead, Copper
Standard.....	Breckenridge.....	Ryan Placer Mining Company	Broad St. House, London, England	Silver, Lead
Warriors Mark and Seven Thirty.....	Montezuma.....	St. John Mines, Ltd.	Breckenridge.....	Gold, Silver, Lead
Wellington.....	Breckenridge.....	Boyez Bros.	429 16th St., Denver.	Gold
Yost.....	Tiger.....	Yost Gold Mines Corp.	429 16th St., Denver.	Gold
OPERATING MINES IN TELLER COUNTY, 1923				

OPERATING MINES IN TELLER COUNTY, 1923.—Continued.

Name of Mine	Location of Mine	Operator	P. O. Address	Character of Product
Blue Bird	Victor	Buckeye M. & M. Co.	Colorado Springs.....	Gold
Conundrum	Cripple Creek	Phoenix Deep Mining Co.	814 Central Savings Bank Bldg., Denver.	Gold
Cresson	Cripple Creek	Cresson Cons. G. M. & M. Co.	Colorado Springs.....	Gold (c)
Delmonico (a)	Victor	Pringle Mining Co. and A. L. Ducey	810 Equitable Bldg., Denver.....	Gold
Doctor Jack Pot	Cripple Creek	Doctor Jack Pot Mining Company	Cripple Creek.....	Gold
Elkton	Elkton	Raven Hill Mining & Leasing Assn.	Colorado Springs.....	Gold
El Paso (a)	Cripple Creek	C. K. & N. Extension M. & L. Co.	1006 Patterson Bldg., Denver.....	Gold (c)
Empire Shaft of Isabella	Independence	Burbridge & Co.	214 American Bank and Trust Bldg., Denver.....	Gold
Fauntleroy	Cripple Creek	McClanahan Gold Mining Co.	Denver.....	Gold
Forest Queen (a)	Victor	John Connors	618 Lafayette St., Denver.....	Gold (c)
Free Coinage	Independence	Rogers & Bennett	Independence.....	Gold
Gold Sovereign	Cripple Creek	Evan J. Williams	Cripple Creek.....	Gold
Granite	Victor	Granite Gold Mining Company	Mining Exchange Bldg., Colorado Springs.....	Gold
Homestake	Cripple Creek	Theobald & Moffet	509 Market St., Kenosha, Wisconsin.....	Gold (c)
Ironclad	Cripple Creek	Iron Clad Hill M. & D. Co.	Victor.....	Gold
Isabella	Independence	Morris Brothers	Cripple Creek.....	Gold
Jay Gould (a)	Cripple Creek	Jay Gould Mining Company	Cripple Creek.....	Gold
Jerry Johnson	Cripple Creek	Jerry Johnson Gold Mining Co.	Cripple Creek.....	Gold
Kalamazoo	Independence	Giblin & Co.	Independence.....	Gold
Lee Shaft of Isabella	Victor	Empire Lee Mining Company	222 Burns Bldg., Colorado Springs.....	Gold
Mary McKinney	Cripple Creek	Mary McKinney Mining Company	Box 1346, Cripple Creek.....	Gold
Midget (a)	Cripple Creek	Lee & Co.	Cripple Creek.....	Gold
Modoc	Cripple Creek	Modoc Cons. Mines Company	Victor.....	Gold
Mollie Kathleen (a)	Cripple Creek	Reclamation Metal Mines Co.	7 North Tejon St., Colorado Springs.....	Gold
New Gold Dollar (a)	Victor	Pringle Mining Company	810 Equitable Bldg., Denver.....	Gold
North Burns (a)	Victor	C. W. Seales	Cripple Creek.....	Gold
Portland	Victor	Portland Gold Mining Co.	310 Mining Exchange Bldg., Colorado Springs.....	Gold
Rose Nicol	Elkton	Kyner & Co.	7 North Tejon St., Colorado Springs.....	Gold
Sangre de Cristo	Cripple Creek	Reclamation Metal Mines Co.	Cripple Creek.....	Gold
South Burns	Cripple Creek	Neusta Ventura Mining Corp.	Colorado Springs.....	Gold
Tonopah Ajax	Victor	Tonopah Ajax Mining Company	Cripple Creek.....	Gold
Victor	Cripple Creek	Al. Osberg	Victor.....	Gold
Vindicator, etc.	Cripple Creek	United Gold Mines Company	271 E. Bennett Ave., Cripple Creek.....	Gold

OPERATING OIL SHALE PROPERTIES IN GARFIELD COUNTY, 1923

Name	Location	Operator	P. O. Address
Little Jim	Grand Valley	Joseph D. Ahearn	Glenwood Springs
	Grand Valley	American Shale Refining Co.	607 First Nat. Bank Bldg., Denver
	Grand Valley	T. L. Bailey & Co.	Grand Valley
	Grand Valley	J. W. Bell	Glenwood Springs
Jones	Grand Valley	Joseph Bellis	Grand Valley
	DeBeque	Belvidere Shale Company	Durango
	Fruita	Black Prince Shale Company	506 First Nat. Bank Bldg., Denver
	Grand Valley	Callahan Oil Shale Company	250 W. 57th St., New York, N. Y.
	DeBeque	Campbell Refining Company	700 E. and C. Bldg., Denver
	DeBeque	Colorado Carbon Company	
	Grand Valley	Columbia Oil Shale & Refining Co.	532 Equitable Bldg., Denver
	DeBeque	Conservative Shale Group	
		Grant Bales & Assoc.	DeBeque
	Ute Rock	John Cortellini & Assoc.	Leadville
S. O. S. and Lucky Strike	DeBeque	Dr. W. A. DeBeque	DeBeque
Reed Doyle	Grand Valley	James Doyle	2125 Grove St., Denver
Eaton	Grand Valley	R. L. Eaton	Glenwood Springs
	DeBeque	J. F. Gregory	Glenwood Springs
	Grand Valley	L. B. Hedge	DeBeque
	DeBeque	Index Shale Oil Company	DeBeque
Index	Grand Valley	Joseph Juhan	Glenwood Springs
	Grand Valley	Samuel McMullin	Grand Junction
	Grand Valley	Monarch Shale Oil Company	720 Symes Bldg., Denver
	DeBeque	Mt. Blaine Oil Shale Co.	DeBeque
	DeBeque	Mt. Logan Oil Shale M. & R. Co.	DeBeque
	Grand Valley	Emil Nelson	St. Paul, Minn.
	DeBeque	Oil Shale Mining Company	DeBeque
		Overland Producing and Refining Company	
	Grand Valley	March Oil Shale Co.	310 Boston Bldg., Denver
	DeBeque	Searchlight Oil Shale Co.	506 First Nat. Bank Bldg., Denver
	Grand Valley	G. A. Taff	DeBeque
	DeBeque	Union Oil Company of California	Exch. Nat. Bk. Bldg., Colo. Sp'gs
	Grand Valley	Washington Shale Company	Union Oil Bldg., Los Angeles, Cal.
			722 Symes Bldg., Denver

OPERATING OIL SHALE PROPERTIES IN MESA COUNTY, 1923

Name	Location	Operator	P. O. Address
Schnoyer	DeBeque	American Mineral Oil Co.	Cooper Bldg., Denver
	DeBeque	L. E. Girard	Boulder
	Colibrane	Ochner Hotaling Company	San Francisco, California
		Pyramid Shale Company	1750 Williams St., Denver
(a) Operated for part of the year only.	(c) No production in 1923.	(m) Mill operated in connection with mine.	

OPERATING QUARRIES AND CLAY PITS, 1923

Town	Location	County	Name	Product	Operator	P. O. Address
Lyon	Boulder	St. Vrain	Sandstone	J. C. Brodie	Lyons	
Garfield	Chaffee	Monarch-Contact	Limestone	Drs. Cochemis and Shaffer	Salida	
Salida	Chaffee	Rose Pink	Granite	Salida Granite Corporation	Salida	
Castle Rock	Jefferson	Brick Yard	Fire Clay	A. C. Nipko	Box 285, Castle Rock	
Castle Rock	Douglas	Johnson	Plastic Clay	E. L. Scott	Castle Rock	
Castle Rock	Douglas	Ware	Plastic Clay	N. S. Hawn	Larkspur	
Castle Rock	Douglas	Rainbow	Sandstone	J. H. Harkins	1019 East Costilla, Colorado Springs	
Manitou	El Paso	Manitou	Limestone	Western Lime Company	305 Sugar Bldg., Denver	
Canon City	Fremont	Burnio	Ganister	S. Vernon St. John	Canon City	
Calcite	Fremont	Calcite	Limestone	Colorado Fuel & Iron Co.	820 Boston Bldg., Denver	
Canon City	Fremont	Clay Pit	Fire Brick	Colorado Lime Corporation	232 Empire Bldg., Denver	
Concrete	Fremont	Concrete	Limestone, Shale	U. S. Portland Cement Co.	14th and Water Sts., Pueblo	
Canon City	Fremont	Dolomite	Dolomite	John P. Thomas, Jr.	508 Teal Bldg., Denver	
Canon City	Fremont	Flint, etc.	Fire Clay	Diamond Fire Brick Co.	Canon City	
Canon City	Fremont	Grape Creek	Ganister	Standard Fire Brick Co.	Canon City	
Canon City	Fremont	Gypsum	Limestone	T. A. Gilray	Coaldale	
Wellsville	Fremont	Lime	Limestone	Guy Post and F. M. Nitro	647 E. St., Salida	
Canon City	Fremont	Noon	Fire Clay	Jewett Fire Brick Co.	Canon City	
Cotopaxi	Fremont	Parkdale	Granite	Peter Noon	Canon City	
Canon City	Fremont	Portland	Fire Clay	Carl Ehlenfeld	Canon City	
Portland	Fremont	Texas Creek	Limestone, Shale	Colorado Portland Cement Co.	Ideal Cement Bldg., Denver	
Salida	Fremont	Travertine or Crystal	Granite	J. A. Lamb	Texas Creek	
Canon City	Fremont	8 Mile	Travertine	Colorado Marble & Stone Co.	Denver	
Marble	Gunnison	Carrara	Limestone	Gennaro Ricchitti	Canon City	
Marble	Gunnison	Old Strauss	Marble	Carrara Yule Marble Co.	Marble	
Marble	Gunnison	Apex	Marble	Colorado Marble Co.	30 Andrews Bldg., Buffalo, New York	
Golden	Jefferson	Binder	Fire Clay	Colorado Marble Co.	Colo. Nat. Bank Bldg., Denver	
Golden	Jefferson	Fire Clay	Plastic Clay	Denver Pressed Brick Co.	Golden	
Golden	Jefferson	Golden	Fire Clay	Denver Pressed Brick Co.	219 Temple Ct. Bldg., Denver	
Golden	Jefferson	Hoyt	Fire Clay	Geo. W. Parfet, Jr.	Denver	
Golden	Jefferson	No. 2 Tunnel	Fire Clay	Geo. W. Parfet	Grant Parfet	
Golden	Jefferson	No. 10 Clay	Plastic Clay	Golden Clay Mining Co.	1336 15th St., Denver	
Golden	Jefferson	No. 32 Tunnel	Fire Clay	Geo. W. Parfet, Jr.	Golden	
Golden	Jefferson	Lower Tunnel	Fire Clay	Golden Clay Mining Co.	Golden	
Golden	Jefferson	Queen City	Plastic Clay	Golden Clay	Golden	
Golden	Jefferson	Queen City	Plastic Clay	Link Stephens	Chris, Bennetts	
Golden	Jefferson	Queen City	Plastic Clay	Denver Pressed Brick Co.	219 Temple Ct. Bldg., Denver	

Golden.....	Rockwell & Apex.....	Plastic Clay.....	G. W. Parfet.....	Golden
Golden.....	Ruby.....	Plastic Clay.....	H. M. Rubey Clay Co.....	Golden
Golden.....	Sweet Tunnel.....	Fire Clay.....	Grant Parfet.....	Golden
Golden.....	Upper Tunnel.....	Fire Clay.....	Link Stephens.....	Golden
Golden.....	Jefferson.....	Plastic Clay.....	W. R. Salmon.....	Golden
Golden.....	Jefferson.....	Plastic Clay.....	Thomas Shephard.....	Golden
Golden.....	Jefferson.....	Limestone.....	John F. Bell.....	Rockwood
Rockwood.....	La Plata.....	Limestone.....	Fred Acosta.....	Ingleside
Ingleside.....	La Javelina.....	Limestone.....	James Vangel.....	Ingleside
Ingleside.....	Larimer.....	Limestone.....	Josephson Brothers.....	Bellvue
Bellvue.....	Larimer.....	Gypsum.....	United States Gypsum Co.....	205 West Monroe St., Chicago, Ill.
Loveland.....	Larimer.....	Limestone.....	Dem Furones.....	Laporte
Laporte.....	Larimer.....	Limestone.....	John Lewandowski.....	Laporte
Ingleside.....	Larimer.....	Shale, Fire Clay.....	Trinidad Brick & Tile Co.....	Trinidad
Las Animas.....	Las Animas.....	Plastic Clay.....	La Junta Clay Products Co.....	La Junta
La Junta.....	Otero.....	Limestone.....	Colorado Fuel & Iron Co.....	820 Boston Bldg., Denver
Line.....	Pueblo.....	Limestone.....	Wm. Olson & Son.....	106 East B St., Pueblo
Pueblo.....	Pueblo.....	Livesey Rock.....	Summit Pressed Brick & Tile Co.....	14th and Water Sts., Pueblo
Pueblo.....	Pueblo.....	Fire Clay.....	Pueblo Clay Products Co.....	406 Thatcher Bldg., Pueblo
Pueblo.....	Turkey Creek.....	Plastic Clay.....	Turkey Creek Stone, Clay and Gypsum Company.....	302 Central Block, Pueblo
Pueblo.....	Turkey Creek.....	Sandstone.....	Fire and Plastic Clay Standard Fire Brick Co.....	Pueblo
Pueblo.....	Vulcan.....	Vulcan.....	Colo. Decorative Marble Co.....	Villa Grove
Mustang.....	Pueblo.....	Marble.....		
Villa Grove.....	Saguache.....			

OPERATING MILLS AND SMELTERS, 1923

Character of Plant	Town	Location	County	Operator	P. O. Address
Arsenic and Cadmium Refinery.....	Denver.....	Adams and Denver American Smelting & Refining Co.....			704 Equitable Bldg., Denver
Ore Sampler.....	Idaho Springs.....	Clear Creek Gilpin Ore Co.....			Idaho Springs
Carnotite Reduction.....	Denver.....	Fitzburg Radium Company.....			2145 So. Mariposa St., Denver
Cyanidation.....	Colorado Springs.....	Golden Cycle M. & P. Co.....			Box 86, Colorado Springs
Zinc Oxide Mfg.....	Canon City.....	The Empire Zinc Company.....			160 Front St., New York, N. Y.
Zinc Oxide Mfg.....	Fremont.....	El Paso.....			Florence
Lead Smelter.....	Fremont.....	Leadville.....			404 Equitable Bldg., Denver
Concentration.....	Florence.....	Lake.....			Leadville
Zinc Oxide Mfg.....	Leadville.....	Lake.....			Leadville
Lead Smelter.....	Durango.....	Lake.....			Leadville
Zinc Oxide Mfg.....	Pueblo.....	La Plata.....			Leadville
Ore Sampler.....	Teller.....	Pueblo.....			Leadville
Compressed Air Plant.....	The Teller County Air Co.....	Victor.....			120 Broadway, New York, N. Y.

OPERATING PLACER MINES AND DREDGES, 1923

Name	Town	Location	County	Operator	P. O. Address
Mt. Elbert Dredge.....	Twin Lakes.....	Lake.....		Mt. Elbert Gold Dredging Co.....	Box 929, Leadville
Fairplay Dredge.....	Fairplay.....	Park.....		South Park Dredging Co.....	433 California St., San Francisco, California
Blue River Dredge.....	Breckenridge.....	Summit.....		Blue River Placer Mining Co.	Breckenridge
Tonopah Dredge.....	Breckenridge.....	Summit.....		Tonopah Placers Company.....	Breckenridge

INDEX

A	Page	Page	
A. C. A. Lode mine.....	31	Belmont Wagner Mining Company.....	42
A. V. Shaft.....	38	Belvidere Shale Company.....	45
A. Y. and Minnie mine.....	38	Ben Eaton mine.....	34
Accidents	18-30	Bertha B. Leasing Company.....	43
classified	21-30	Bertha B. mine.....	43
notes on fatal.....	18-21	Bethel mine	39
Aco Mining Company.....	43	Bethel Mining and Leasing Company.....	39
Adelaide Mining Company.....	38	Big Chance mine.....	31
Adelaide tunnel	38	Big Five Mining Company.....	31
Aetna mine	40	Big Five tunnel.....	31
Akron mine	37	Big Horn mine.....	30
Akron Mines	10, 37	Binder clay pit.....	46
Alaska Gold M. and M. Co.....	34	Black Bear mine.....	10, 11, 42
Albro Leasing Company.....	31	Black Diamond mine.....	30
Albro mine	31	Black Jack mine.....	35
Alexander mine	31	Black Prince Shale Company.....	45
Alice mine	30	Black Wonder mine.....	37
Alice-Theora Mining Company.....	36	Blaine mine	38
Allard group	11	Blue Bell Leasing Company.....	43
Alta mine	42	Blue Bell mine.....	43
American Eagle mine.....	35, 42	Blue Bird mine.....	44
American Eagles mine.....	43	Blue Jay mine.....	30, 41
American Mineral Oil Co.....	45	Blue Ribbon mine.....	30
American Shale Refining Co.....	45	Blue River dredge.....	48
American Smelting and Refining Company.....	5, 7, 8, 47	Blue River Placer Mining Company.....	9, 48
Anaconda Leasing Company.....	43	Bonanza mine	30
Anaconda mine	43	Bonny mine	35
Anderson Bros. Inc.....	36	Bonnybel Lease	41
Annie lode	35	Bonnybel mine	41
Apex quarry	46	Boston and Clear Creek mine.....	32
Arapaho mine	30	Boston and Clear Creek Mining Company.....	32
Argentine-Santiago M. and M. Co.....	33	Boulder County tunnel.....	30
Argo mine	31	Bradford Mines Company.....	35
Associated Leasing Company.....	30	Brazil mine	32
Atkinson mine	35	Breckenridge Mining & Cyanide Company.....	43
Atlantic mine	35	Brick Yard clay pit.....	46
Atlas mine	11, 40	Bryan-Wheeler mine	35
Atlas M. and M. Company.....	40	Buckeye M. & M. Company.....	44
		Burnito quarry	46
B			
Bachelor mine	39	C	
Bachelor M. and M. Company.....	39	C. K. and N. Extension M. and L. Company.....	44
Back Bone mine.....	31	Calcite quarry	46
Bad Boy mine	43	Caledonian mine	42
Bantalla mine	32	Caledonian M. and M. Company.....	42
Barndt and Kuehne L. and H. Synd.....	36	Callahan mine (Oil Shales).....	45
Barstow mine	40	Callahan Oil Shale Company.....	45
Bartell lease	38	Calvin mine	32
Bassick cyanide mill.....	34	Campbell Refining Company.....	45
Bassick Extension Mining Corp.....	34	Caney Oil Mines Company.....	32
Bear Creek mine	31	Canterbury Tunnel	9, 38
Becky Sharp Lease	31	Cape Cod mine	35
Becky Sharp mine	31	Capital mine	32
Belle of the East mine.....	37	Capital Mining and Milling Company.....	32
Belle of the West mine.....	37	Carbonero mine	42
Belle of the West Mining Company.....	37	Caribou Metals Company.....	30
Bells quarry	47	Caribou mine	30
Bellvue Hudson mine.....	31	Carrara quarry	46

Page	Page		
Carrara Yule Marble Company.....	46	Crystal quarry	46
Carter mine	37	Cumberland Mines Company.....	39
Carter Mines Company.....	37	Cyclops mine	35
Castle Placer	30	D	
Castle Tunnel	30	Davenport tunnel	32
Challenge mine	32	Delmonico mine	44
Charter Oak-Chancellor M. & M. Company.....	32	Denver Mining Pool Company.....	35
Charter Oak mine.....	32	Denver Pressed Brick Company.....	46
Chrysolite No. 4 mine.....	38	Denver Sewer Pipe and Clay Company.....	46
Champion mine	32, 35	Denver tunnel	32
Clara mine	32	Detroit Leasing Company.....	43
Clare Marie mine.....	35	Detroit mine	9, 43
Clear Creek Gilpin Ore Company.....	47	Diamond Fire Brick Company.....	46
Clear Creek and Gilpin Tunnel.....	32	Dinero mine	38
Cleveland mine	35	Dives mine	42
Cleveland-Silverwing mine	32	Dives Leasing Company.....	42
Cloverdale mine	34	Dives Seven Thirty mine.....	32
Cloverdale Mines Company.....	34	Doctor Jack Pot mine.....	44
Cocomongo mine	9, 41	Doctor Jack Pot Mining Company.....	44
Cocomongo Mines Company.....	41	Dolomite quarry	46
Cold Spring and Cold Spring No. 2.....	30	Dominion mine	32
Colorado Carbon Company.....	45	Down Town mine	38
Colorado Cons. M. & P. Company.....	37	Down Town Mines Company.....	38
Colorado Decorative Marble Company.....	47	Durias mine	30
Colorado Extension mine.....	32	E	
Colorado Fluorspar Corporation.....	37	Eagle mine	35
Colorado Fluorspar mine.....	37	Eagle Samplers, Inc.....	47
Colorado Fuel and Iron Company.....	41, 46, 47	East Butte Copper Mining Company.....	32, 34
Colorado Lead Products Company.....	8, 34	East Side mine	30
Colorado Lime Corporation.....	46	East Williams mine	35
Colorado Marble Company.....	46	Eaton mine (Oil Shales)	45
Colorado Marble and Stone Company.....	46	Eight-Mile quarry	46
Colorado mine	39	Elk Head mine	30
Colorado Pacific Mining Company.....	35	Elkton mine	44
Colorado Portland Cement Company.....	46	Elmwood Mining & Exploration Company.....	32
Colorado-Superior Mining Company.....	42	El Paso mine	44
Colorado tunnel	35	Emma mine	34
Columbia mine (Oil Shales)	45	Empire Cons. mine	32
Columbia Oil Shale and Refining Company.....	45	Empire Cons. Mines, Inc.....	32
Columbian Mountain M. and L. Company.....	33	Empire Lee Mining Company	44
Columbia tunnel	35	Empire Shaft of Isabella mine	44
Columbine tunnel	32	Empire Zinc Company	9, 35, 47
Commodore mine	32	Equator mine	30
Comstock M. and M. Company	35, 36	Esmeralda mine	32
Comstock tunnel	34	Etna mine	35
Concrete quarry	46	Eureka mine	9
Conservative Shale Group	45	Eva mine	40
Consolation mine	30	Evans mine	30
Conundrum mine	44	Evergreen mine	35
Coop. Metal Mines Company	36	Evergreen Mines Company	35
Copper Glance mine	40	Excelsior and Paris mine	40
Copper Guleh mine	41	F	
Cornucopia mine	35	Fairburn lode	36
Cornucopia M. and M. Company	35	Fairfax mine	30
Corporation of American Mines	32	Fairfield mine	36
Cowenhaven tunnel	41	Fairplay dredge	48
Cresson Cons. G. M. and M. Company	44	Falcon mine	34
Cresson mine	8, 44	Faleon Syndicate	34
Criterion mine	40	Fanny Fern mine	37
Croesus mine	32	Fanny Fern Mining Company	37
Cross mine	30	Fanny Rawlings mine	38
Crown Point mine	32	Farmer Boy mine	39

Page	Page		
Fauntleroy mine	44	Golden Empire Mining Company	33
Fire clay pit	46	Golden Fleece mine	37
Flint clay pit	46	Golden Fleece T. M. and L. Company	37
Florence R mine	41	Golden Reward mine	39
Fluorspar mine	39	Goldsmith Maid mine	30
Food Cliff mine	32	Good Hope mine	37
Forest Queen mine	44	Good Hope Min. & Red. Company	37
Forrest City Lease	38	Gordon Fuming and Metal Process	10
Fortuna mine	38	Granite Gold Mining Company	44
Fortune mine	30	Granite mine	8, 44
Four-Most mine	43	Grape Creek quarry	46
Four-Most M. and M. Company	43	Gray Bird mine	30
Fox Lake mine	43	Great Britain mine	30
Frank J. Hayes group	32	Greenback shaft	9
Frank J. Hayes Mining Company	32	Greenside mine	36
Free Coinage mine	44	Gustavus Sessinghaus & Co	47
Freeland mine	32	Guston mine	40
Freeman mine	32	Gypsum quarry	46
Friend Mining Company	34		
Funston and Lookout mines	40		
G			
G. F. Mining Associates	34	H. M. Rubey Clay Company	47
Garfield mine	30	Hahns Peak Gold M. and M. Company	41
Garfield Mines and Reduction Company	31	Hamill Mining and Tunnel Company	33
Gary mine (Oil Shales)	45	Hamill tunnel	33
Gem Leasing Company	41	Hellena mine	9
Gem mine	32, 41	Helping Hand M. & M. Dev. Co	36
Gem Mining Company	32	Henrietta mine	38
General Sherman mine	37	Henrietta Mines Company	38
George D. Everden Company	32	Hibschle shaft	38
George III mine	37	Hidden Treasure mine	33, 37
George III Mines Company	37	Highland Leasing Company	42
Gibson Hill Development Company	43	Highland Mary mine	42
Gibson Hill mine	43	Himes Leasing Company	33
Gladstone mine	31	Homestake mine	44
Gladstone Mines Company	31	Hope mine	10, 41
Glenwood tunnel	35	Hope M. M. and L. Company	41
Golconda mine	37	Horsfall mine	30
Golconda Mines Cons., Inc.	37	Hoyt clay pit	46
Gold Belt mine	32	Hudson mill	33
Gold Bug mine	39	Hunkidory mine	43
Gold Bug M. and M. Company, Ltd.	39	Hunter Creek mill	41
Gold Cup mine	37	Huron Gold Ores Company	30
Gold Cup M. and R. Company	37	Huron mine	30
Gold Dollar tunnel	32	Hurricane Leasing Company	41
Gold Drift Leasing Company	42	Hurricane mine	41
Gold Glen mine	32		
Gold Glen M. M. and T. Company	32		
Gold King mine	11, 42		
Gold King Mines Corp.	42		
Gold Ledge mine	36		
Gold Ledge Mining Company	36		
Gold Sovereign mine	44		
Gold Valley mine	33		
Golden Clay Mining Company	46		
Golden clay pit	46		
Golden Cycle mill	8		
Golden Cycle M. and R. Company	47		
Golden Eagle mine	33		
Golden Edge mine	33		
Golden Edge Mines Company	33		
Golden Empire mine	33		
I			
Ibex mine	8, 38		
Ibex Mining Company	38		
Ida Bell mine	43		
Idaho-Valley View mine	39		
Independent mine	30		
Index mine (Oil Shales)	45		
Index Shale Oil Company	45		
Inez Mining Company	38		
Ingleside quarry	47		
Iowa Gold M. and M. Company	42		
Iowa mine	42		
Iron Age mine	30		
Iron Clad Hill M. and D. Company	44		
Iron Clad mine	44		
Iroquois Mines Company	40		
Isabella mine	44		

Page	Page		
Izard Lease	38	Long Park mine.....	39
Izard mine	38	Louisville mine	38
J		Loveland quarry	47
Jay Gould mine.....	44	Lower Tunnel clay pit.....	46
Jay Gould Mining Company.....	44	Lucky Day mill.....	37
Jennie Blanche mine.....	36	Lucky Day M. and M. Company.....	37
Jerry Johnson Gold Mining Company.....	44	Lucky Find mine.....	33
Jerry Johnson mine.....	44	Lucky Moon mine.....	39
Jerry mine	9, 43	Lucky Strike mine (Oil Shales).....	45
Jewell mine	41	Lyons mine (Oil Shales).....	45
K		M	
Kalamazoo mine	44	McCarthy Hidden Treasure Mg. Corp.....	37
Kanawha Gold Mining Company.....	38	McClanahan Gold Mining Company.....	44
Kansas City mine.....	42	McCullough-Withrow Leasing Company.....	40
KeKeOnga mine	30	Mammoth mine	34
Keystone-Bates mine	36	Manitou quarry	46
Kicker mine	30	March Oil Shale Company.....	45
Kingston Mining Company.....	36	Marlin mine	43
L		Marlin M. M. and Power Company.....	43
La Junta Clay Products Company.....	47	Maryland Mines and Reduction Company.....	36
Lamar mine	30	Maryland tunnel	36
Lambertine mine	34	Mary McKinney mine.....	44
Last Chance mine.....	30, 39	Mary McKinney Mining Company.....	44
Last Quarter mine	34	Mary Murphy Gold Mining Company.....	31
Lead mine	37	Mary Murphy mine	31
Leadville Mine Development Company.....	38	Mary Olive mine	30
Lee mine	33	Matchless No. 7 mine.....	38
Lee M. and M. Company.....	33	Mattie Cons. Mines, Inc.....	33
Lee Shaft of Isabella mine.....	44	Mattie mine	33
Lellie mine	37	Mattie Jack mine	33
Liberty Mining and Reduction Company.....	43	May Day mine	11, 39
Lillian mine	36, 38	Mecca mine	38
Lilly mine	10, 31	Mecca Mining Company.....	38
Lime quarry	46, 47	Mendota mine	33
Lincoln Cons. Mining Company.....	40	Metals, production by counties (See tables facing page 16)	
Lincoln mine	33, 40	Metals Tunnel Company	32
Lincoln M. and M. Company.....	33	Meteor mine	33
Little Alice claim	9	Midget mine	44
Little Alice mine	38	Midnight mine	41
Little Boss tunnel	31	Midnight Mining Company	41
Little Jim mine (Oil Shales).....	45	Midwest Mining Company	39
Little Johnnie mine	30	Midwest M. and M. Company	35
Little Johnnie M. and M. Company.....	30	Mikado Lease	38
Little Nation mine	11, 42	Mikado mine	38
Little Nation Mining Company	42	Millinee Mining Company	41
Livesey Rock quarry	47	Millington G. M. and M. Company	33
Logan Metals Company	30	Millington mine	33
Logan mine	30	Missouri mine	9, 40, 43
Lombard mine	33	Mocking Bird mine	36
London Gold Mines Company	40	Modoc Cons. Mines Company	44
London mine	40	Modoc mine	8, 44
London Mines Leasing Company	40	Mollie Kathleen mine	44

Page	Page		
Mountain Boy mine.....	8	Penobscot mine	36
Mountain Top mine.....	11, 40	Perigo mine	36
Mountain Top Mining Company.....	40	Perigo M. and M. Company.....	36
Mt. Blaine Oil Shale Company.....	45	Phenol mine (Oil Shales).....	45
Mt. Gross Ores Company.....	40	Philadelphia mine	43
Mt. Elbert dredge.....	48	Phoenix Deep Mining Company.....	44
Mt. Elbert Gold Dredging Company.....	48	Pittsburg Radium Company.....	47
Mt. Hayden mine.....	40	Platteville mine	30
Mt. Logan mine (Oil Shales).....	45	Platts' Big Chance mine.....	33
Mt. Logan Oil Shale M. and R. Company.....	45	Polar Star mine.....	35
Mt. Pleasant Mining Company.....	34	Polar Star Mining Company.....	35
Myrtle mine	30	Ponsardin shaft	38
N		Portland Gold Mining Company.....	44
National mine	33	Portland mine	8, 44
National Mining Company.....	33	Portland quarry	46
Nations Treasure mine.....	30	Potosi-Caribou Mining Company.....	31
Neglected mine	33	Potosi mine	31
Nelson Leasing and Dev. Company.....	34	Pride of the West mine.....	11, 42
Neusta Ventura Mining Corp.....	44	Prince of Wales Leasing Company.....	38
New Denver City Mining Company.....	38	Prince of Wales mine.....	38
New Discovery mine.....	41	Pringle Mining Company.....	44
New Gold Dollar mine.....	44	Prodigal mine	39
New Life M. and M. Corp.....	36	Production	17
Newman M. M. and L. Company.....	41	Providence mine	42
Newman tunnel	41	Providence M. and M. Company.....	30
New York mine.....	39	Publications of Bureau of Mines.....	14
Nil Desperandum Mines Company.....	31	Pueblo Clay Products Company.....	47
Nimrod mine	33	Pyramid Shale Company.....	45
Nite-lite Camp	42	Pyrenees shaft	9
Noon quarry	46	Q	
North Burns mine.....	44	Queen City clay pit.....	46
North Side London mine.....	40	R	
No. 2 Tunnel clay pit.....	46	Rainbow Mining Co.	33
No. 10 clay pit.....	46	Rainbow quarry	46
No. 32 Tunnel clay pit.....	46	Rainbow tunnel	33
O		Rara Avis mine	36
O. C. Redick Mining Company.....	35	Raven Hill Mining and Lsg. Assn.....	44
O. S. Storrs mine.....	33	Rawley mine	9, 41
Ochner Hotaling Company.....	45	Ready Cash mine.....	31
Oil Shale Mining Company.....	45	Ready Cash tunnel.....	9
Oklahoma mine	30	Reclamation Metal Mines Company.....	44
Old Stone Wall mine.....	33	Red Sign mine	31
Old Strauss quarry.....	46	Reed Doyle mine (Oil Shales).....	45
Ophir Creek Gold M. and M. Company.....	34	Remington mine	32
Ophir Creek mine.....	34	Resurrection mine	39
Ophir Loop Mines and Metals Company.....	42	Revenue mine	40
Orient mine	9, 41	Revenue Tunnel Mines Company.....	40
Oriental tunnel	33	Richmond mine	31
Orinoco mine	33	River Smelting and Refining Company.....	47
Orphan Boy mine.....	40	Robert E. Lee Lease.....	38
Osceola mine	31	Robert E. Lee mine	38
Ottawa mine	33	Rockfield mine	39
Overland Producing and Refining Company.....	45	Rockwell clay pit.....	47
P		Roosevelt mine	37
P. O. S. Leasing Company.....	38	Roosevelt Mines and Elec. Company.....	37
P. O. S. shaft.....	38	Rose Nicol mine	44
Palisade Copper Company.....	34	Rose Pink quarry	46
Parkdale quarry	46	Royal Flush mine	41
Park tunnel	41	Royal Tiger mill	9
Park Tunnel M. and M. Company.....	41	Royal Tiger mine	43
Pay Streak mine.....	33	Royal Tiger Mines Company.....	43
Pennsylvania mine	36, 43	Rubey clay pit.....	47

Page	Page
Ruby mine	31
Ruerille group	40
Russell mine	36
Ruuutila Brown Leasing Company.....	42
Ryan placer	43
Ryan Placer Mining Company.....	43
S	
S. O. N. Mining Company.....	36
S. O. S. mine (Oil Shales).....	45
Saco De Oro mine.....	36
Saco De Oro M. and M. Company.....	36
St. George mine.....	33
St. George Mine, Inc.	33
St. John mine.....	43
St. John Mines, Ltd.	43
St. Louis mine.....	38
St. Vrain quarry.....	46
Salida Granite Corporation.....	46
San Bernardo mill.....	42
Sangre de Cristo mine.....	44
Santiago mine	33
Sceptre Mines and Mills Company.....	34
Schuylerville mine (Oil Shales).....	45
Scotch and Irish Girl.....	40
Searchlight Oil Shale Company.....	45
Sedalia Copper Company.....	31
Sedalia mine	10, 31
Senator mine	33, 36
Seneca Mining Company.....	38
Seven Thirty mine.....	9, 36, 43
Seventh Street Mining Company.....	38
Shamus O'Brien mine.....	38
Sheridan Crosscut mine.....	42
Shirley mine	31
Sidney tunnel	34
Silent Friend mine.....	34
Silverado Ore Company.....	34
Silver Bell mine.....	42
Silver Horde mine.....	39
Silver Horde M. and M. Company	39
Silver Key mine.....	37
Silver King mine.....	34
Silver Leaf mine.....	34
Silvermane Mines Company.....	37
Silver Mines Company of America.....	41
Silver M. and M. Company.....	43
Silver Mountain mine.....	34
Silver Mountain Mining Company.....	35
Silver Queen mine.....	34
Silver Screen M. and M. Company.....	40
Skek City mine.....	34
Smith Lawson Company.....	32, 33
Smuggler Leasing Company.....	41
Smuggler mine	34, 36, 41
Smuggler Union mine.....	11, 42
Smuggler-Union Mining Company.....	42
Snowbound mine	31
Snow Bound Mining Company.....	31
Snowlode tunnel	38
Social Six Mining Company.....	32
South Burns mine	44
South Ibex mine.....	38
South Ibex Mines Company.....	38
South Park Dredging Company.....	48
Spar Cons. Mining Company.....	41
Spotted Horse mine.....	36
Spur Daisy mine.....	36
Standard Chemical Company.....	39
Standard Fire Brick Company.....	46, 47
Standard mine	39, 43
Star Cons. Mines Company.....	38
Star mine	38
Star tunnel	34
Star Leasing Company.....	38
Stratton C. C. M. and D. Company.....	43
Stude-Marie Mining Company.....	31
Sunburst-Sceptre mine	34
Sun-Dog mine	34
Summit Pressed Brick and Tile Company.....	46, 47
Sunnyside mine	11, 42
Sunnyside M. and M. Company.....	42
Surety Gold Mining Company.....	33, 34
Swan mine	34
Swan M. and M. Company.....	34
Sweet Home mine	40
Sweet Home Gold and Silver M. and M. Co.....	40
Sweet Tunnel clay pit	47
T	
Teller County Air Company.....	47
Tennessee-Colorado Dev. Company.....	10, 37
Tennessee shaft	37
Ten to One mine	34
Terrible mine	34
Texas Creek quarry	46
Thelma Leasing Company	36
Thistledown mine	40
Tip Top Gold Dredging Company	36
Tip Top mine	36
Toledo mine	9
Tomboy Gold Mines Company, Ltd.....	42
Tomboy mine	11, 42
Tom Moore mine	34
Tom Moore M. and M. Company	34
Tom Thum mine	41
Tom Thum Syndicate	41
Tonopah Ajax mine	8, 44
Tonopah Ajax Mining Company	44
Tonopah Colorado Leasing Company	33
Tonopah dredge	48
Tonopah Placers Company	9, 48
Travertine quarry	46
Treasure Vault Mining Company	33
Trinidad Brick and Tile Company	47
Tucson Lease	38
Tucson mine	38
Turkey Creek quarry	47
Turkey Creek Stone, Clay and Gypsum Company	47
Turner mine	32
Two Lassies mine	36
Two Mile High Mining Company	38
Two Sisters mine	31
U	
Union Oil Company of California	45
United Freeland Dev. & T. Company	32

Page	Page		
United Gold Mines Company.....	44	Wellington Mines Company.....	43
United States Gypsum Company.....	47	Western Lime Company.....	46
U. S. Portland Cement Company.....	46	Western Zinc Oxide Company.....	47
United States Radium Corp.....	39	White Crow mine.....	31
United States Zinc Company.....	47	White Iron mine.....	37
Upper Tunnel clay pit.....	47	White Iron Ores and Products Company.....	37
Ute Rock mine (Oil Shales).....	45	White Mt. Mining Company.....	40
V		Wide West Mining Company.....	42
Valley View Cons. G. M. Company.....	39	Wilkesbarrie Leasing Company.....	38
Valley View Leasing and Mg. Company.....	42	Wm. Penn mine.....	40
Vasco mine	31	Windy Point mine.....	39
Vasco Mining Company.....	17, 31	Witter mine	31
Venus Mining Company.....	32	Wolf Tongue Mining Company.....	17, 30
Veteran tunnel	41	Wood Mountain mine.....	31
Victor Lease	37	Wood Mountain Mines Company.....	31
Victor mine	37, 44	Wyoming mine	37
Vindicator mine	8, 44	Y	
Virginia mine	32	Yak Mines	38
Vulcan quarry	47	Yak Tunnel	8, 9, 38
W		Yellow Pine mine.....	31
Wain mine	36	Yellow Pine Mines and Red. Company.....	31
Waldorf mine	34	Yost Gold Mines Corp.....	43
Ware clay pit.....	46	Yost mine	43
Warriors Mark mine.....	9, 43	Yukon Girl mine.....	34
Wasatch Colorado Mining Company.....	33	Yule Marble Company of Colorado.....	46
Washington Gold Quartz Mining Company.....	43	Yule quarry	46
Washington Shale Company.....	45	Z	
Wellington mine	9, 43	Zero tunnel	34



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